UNCLASSIFIED

ENVIRONMENTAL ASSESSMENT

WEAPONS SECURITY ACTIONS
(WSA)

NAVAL BASE KITSAP at BANGOR
SILVERDALE, KITSAP COUNTY, WA

APRIL 2005

DEPARTMENT OF THE NAVY

UNCLASSIFIED

Lead Agency: U.S. Navy (U)

Proposed Actions: Weapons Security Actions at Naval Base Kitsap (NBK) at Bangor, Washington (U)

Contact at Responsible Command: (U) Mr. Fred Chamberlain
Department of the Navy
Strategic Systems Program
Nebraska Avenue Complex
287 Somers Court, NW
Suite 10041
Washington, D.C. 20393-5446
(202) 764-1562

Type of Document: Final Environmental Assessment (U)

Date: April 2005

Abstract: (U) To comply with security requirements, the U.S. Navy (Navy) proposes to construct new weapons security facilities at NBK at Bangor to complement the existing and planned security systems at the base. The two proposed construction projects consist of hardened missile motor magazines and a new Limited Area Processing and Storage Complex (LAPSC). The proposed actions would result in the following environmental effects, which would be mitigated to reduce the residual effects to nonsignificant levels: (1) the generation of noise during construction activities; (2) soil disturbance over an area of up to 81 acres; (3) the excavation and placement as fill of about 910,000 cubic yards of soil; (4) the generation of air pollutants during construction activities and infrequent operation of emergency generators; (5) the creation of about 15 acres of impervious surfaces within a 2,500-acre watershed at NBK at Bangor; (6) the generation of solid waste during the construction and operation of the proposed facilities; (7) the clearing of up to 16 acres of vegetation for the construction of the LAPSC and Borrow Area A; and (8) the generation of substantial vehicular traffic during construction.

SUMMARY (U)

(U) Facility upgrades are required at Naval Base Kitsap (NBK) at Bangor to comply with increased security requirements established following the terrorist attacks of September 11, 2001. The U.S. Navy (Navy) proposes two construction projects to increase security at NBK at Bangor:

- (U) Hardened Missile Motor Magazines (P-974), and
- (U) A Limited Area Processing and Storage Complex (LAPSC) (P-973).

(U) The two projects would be implemented during Fiscal Years (FYs) 2005 through 2013.

(U) The Navy Strategic Systems Programs' (SSP) decision to undertake the proposed actions was based on analyses contained in Appendix A. Appendix A is classified as SECRET/Formerly Restricted Data (FRD) pursuant to OPNAVINST S5513.5B, enclosure (27). This Environmental Assessment (EA) contains a detailed analysis of changes to the environment that would result from implementing the two projects and an analysis of the no-action alternative. The proposed actions would be constructed at existing developed portions of NBK at Bangor and would be consistent with the NBK at Bangor Master Plan. The location of weapons support facilities was determined during planning for the Trident D-5 upgrade program and was addressed in an environmental assessment prepared at that time (Department of the Navy, 1989).

(U) The proposed actions would result in the following environmental effects:

- (U) Generation of noise during construction activities;
- (U) Soil disturbance over an area of up to 81 acres, and a resulting potential for soil erosion and sedimentation;
- (U) Excavation and placement as fill of about 910,000 cu yd of soil (obtained through the use of soil excavated at project sites and the development of on-base borrow area[s]) at the Limited Area;
- (U) Generation of air pollutants, consisting of dust generated by construction activities; emissions from construction equipment, including a concrete batch plant and emissions generated during infrequent operation of emergency generators;
- (U) Creation of about 15 acres of impervious surfaces within a 2,500-acre watershed at NBK at Bangor;
- (U) Generation of solid waste during the construction and operation of the proposed facilities;
- (U) Clearing of up to 16 acres of vegetation for the construction of the LAPSC and Borrow Area A; and

- (U) Generation of substantial vehicular traffic during the construction period.

(U) These potential environmental effects would be prevented or minimized through the application of measures outlined in this document.

(U) To implement the proposed actions, the following permits and approvals would be required from regulatory agencies:

- (U) Notification to Region 10 of the Environmental Protection Agency (EPA) that the discharge of stormwater from large construction areas would be managed in conformance with General Permit requirements; and
- (U) Filing of a Notice of Construction application and Order of Approval with the Puget Sound Clean Air Agency for emission of particulate matter during operation of a concrete batch plant.

FINAL EA DISTRIBUTION LIST
(Unclassified in Entirety)

Navy

Commanding Officer
Naval Facilities Engineering Command
Code N456F
Washington, D.C. 22202

Commanding Officer
Naval Region Northwest, Code N00J3
1103 Hunley Road
Silverdale, WA 98315-1103
(360) 315-5007

Commander
Naval Base Kitsap
1100 Hunley Road, Suite 203
Silverdale, WA 98315-1199
(360) 396-4949

CONTENTS
(Unclassified in Entirety)

APPENDICES

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS
(Unclassified in Entirety)

ACHP	Advisory Council on Historic Preservation
BACT	Best Available Control Technology
BMP	best management practice
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CEQ	Council on Environmental Quality
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	*Code of Federal Regulations*
CO	carbon monoxide
cu yd	cubic yard(s)
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
dBA	A-weighted decibel(s)
DoD	Department of Defense
EA	Environmental Assessment
EDR	Environmental Data Resources, Inc.
EHW	Explosives Handling Wharf
EIS	Environmental Impact Statement
E.O.	Executive Order
EPA	Environmental Protection Agency
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FPPA	Farmland Protection Policy Act
FRD	Formerly Restricted Data
ft	foot/feet
FTTS	FIFRA/TSCA Tracking System
FY	Fiscal Year
HARP	Historic and Archaeological Resources Protection
HMMWV	High Mobility Military Wheeled Vehicle
hr	hour(s)
IC	institutional control
INRMP	Integrated Natural Resources Management Plan
IR	Installation Restoration
KCSMMP	Kitsap County Shoreline Management Master Plan
kW	kilowatt(s)
LA	Limited Area
LAPSC	Limited Area Processing and Storage Complex
mi	mile(s)
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
Navy	U.S. Navy
NBK	Naval Base Kitsap
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_x	nitrogen oxides
NOFORN	Not Releasable To Foreign Nationals
NPDES	National Pollutant Discharge Elimination System

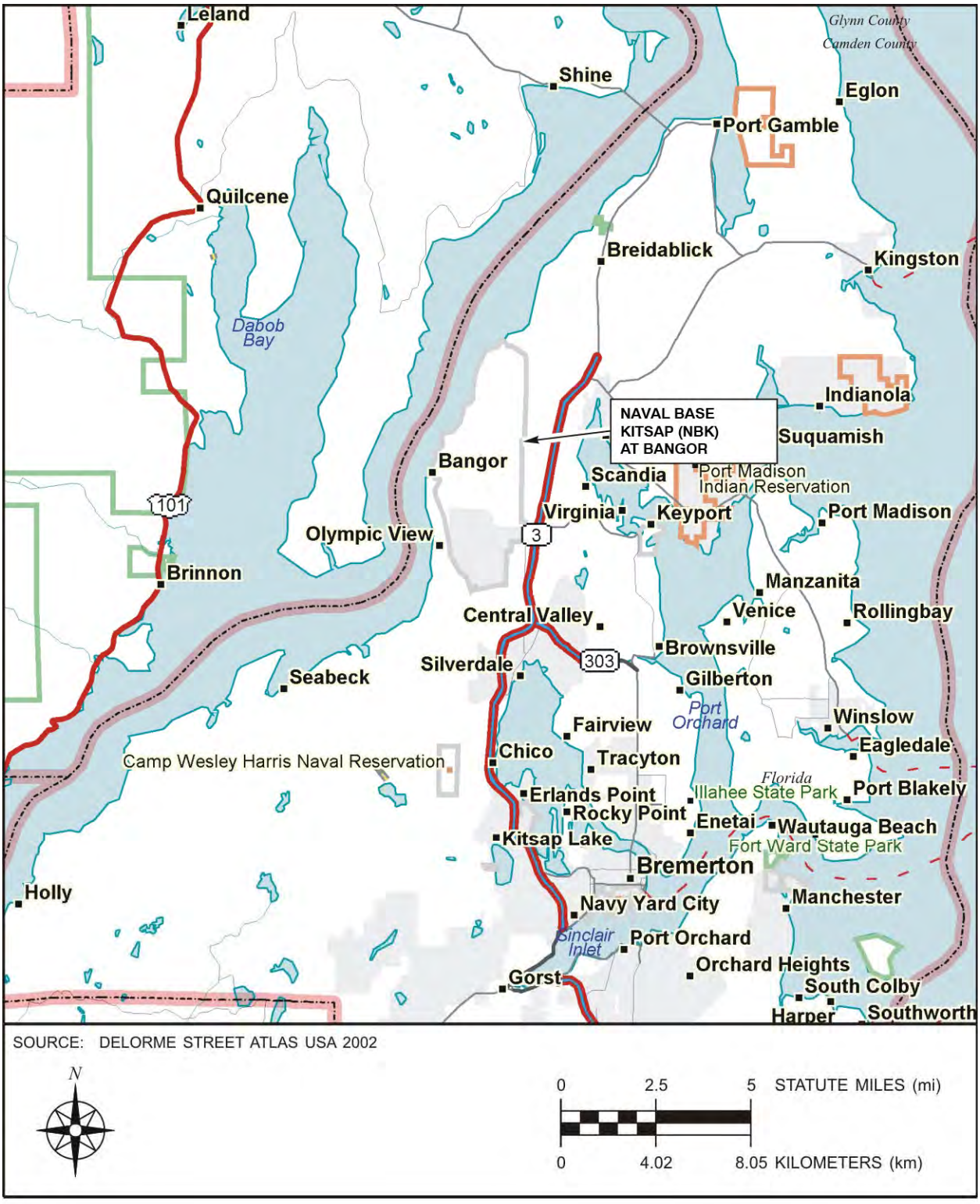
ABBREVIATIONS (CONCLUDED)

NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRIS	National Register Information System
NWI	National Wetlands Inventory
O_3	ozone
OPNAVINST	Chief of Naval Operations Instruction
PADS	PCBs Activity Database
Pb	lead
PCB	polychlorinated biphenyl
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
$PM_{2.5}$	particulate matter—2.5 microns
POWKx	palustrine open-water
PSCAA	Puget Sound Clean Air Agency
PSSC	palustrine scrub-shrub seasonally flooded wetlands
RCRIS	Resource Conservation and Recovery Information System
Regulations	PSCAA's Regulation I
SH	State Highway
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO_2	sulfur dioxide
sq ft	square foot/feet
SSP	Strategic Systems Programs
SWFPAC	Strategic Weapons Facility, Pacific
SWPPP	Storm Water Pollution Prevention Plan
TAC	toxic air contaminants
tpy	ton(s) per year
TSCA	Toxic Substances Control Act
U	Unclassified
UCNI	Unclassified Controlled Nuclear Information
UPS	uninterruptible power supply
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound
WA DOE	Washington State Department of Ecology
WA DNR	Washington Department of Natural Resources
WSA	Weapons Security Actions

1 PURPOSE AND NEED (U)

(U) In response to the terrorist attacks of September 11, 2001, the United States (U.S.) government has increased security requirements at its military installations. Chief of Naval Operations Instruction (OPNAVINST) 5530.14C, *Navy Physical Security Manual*, establishes requirements for security at naval bases, including NBK at Bangor, located near Silverdale in Kitsap County, Washington (see Figure 1). The Navy Strategic Systems Programs' (SSP) decision to undertake the proposed actions is based on information contained in the following classified documents: (1) National Security Presidential Directive/NSPD-28, SECRET; (President, 2003) (2) Department of Defense (DoD), *Nuclear Weapon Security Manual*, S-5210.41-M (DoD, 2004); SECRET/Not Releasable To Foreign Nationals (NOFORN); (3) OPNAVINST C-8126.1B, *Navy Nuclear Weapons Security Policy*, CONFIDENTIAL, (Department of the Navy, 2002); and (4) *2002 Systems Effectiveness Assessment of the Physical Security Systems at Naval Submarine Base, Bangor*, SECRET/FRD (Sandia National Laboratory, 2002).

(U) The purpose of the proposed projects is to implement security actions that comply with Navy requirements and specific security measures identified in the classified documents. Appendix B is classified as SECRET/FRD, pursuant to OPNAVINST S5513.5B, enclosure (27), and provides a detailed discussion of the proposed actions' purpose and need. Navy SSP is the sponsor of the proposed projects and is responsible for overall management of the National Environmental Policy Act (NEPA) process.



EXISTING FACILITIES — 1:250,000 SCALE

FIGURE 1 SITE LOCATION MAP — NAVAL BASE KITSAP (NBK) AT BANGOR, WASHINGTON (U)

2 DESCRIPTION OF PROPOSED ACTIONS AND ALTERNATIVES (U)

2.1 Overview of Proposed Actions (U)

(U) Navy SSP proposes two projects to increase weapons security in the Limited Area (LA) at NBK at Bangor:

- (U) Hardened Missile Motor Magazines (P-974), and
- (U) A Limited Area Processing and Storage Complex (LAPSC) (P-973).

(U) Specially protected buildings capable of storing and processing weapons would be constructed at the locations shown in Figures 2 and 3, found in Appendix C and designated Unclassified Controlled Nuclear Information (UCNI). This EA addresses the proposed construction of these facilities and the no-action alternative. No additional alternatives were reasonable or practical. Construction of magazines and facilities capable of storing and servicing program assets was addressed in previous NEPA studies at NBK at Bangor (see Section 2.2). Due to operational constraints, these proposed facilities must be constructed within the LA. Additional information on project requirements is contained in Appendices A and B, which are classified as SECRET/FRD.

2.2 Previous Environmental Studies at NBK at Bangor (U)

(U) The Navy conducted an extensive environmental review prior to the selection of Bangor as the location for the Pacific Coast base for strategic submarine programs. In 1974, the Navy prepared an Environmental Impact Statement (EIS) that identified Bangor, Washington, as the preferred location for a fleet ballistic missile submarine support base (Department of the Navy, 1974, 1978). The Navy also prepared several supplements to that EIS during the period 1974 through 1978. In addition, the Navy prepared EAs for Trident D-5 facilities upgrades at NBK at Bangor in 1989 and for the installation of a waterborne force protection barrier at NBK at Bangor in 2002 (Department of the Navy, 1989, 2002).

(U) NBK at Bangor produced an Integrated Natural Resources Management Plan (INRMP) that guides the implementation of the natural resources program at NBK at Bangor and associated facilities (NBK at Bangor, 1999). The INRMP helps to ensure the conservation of NBK at Bangor's natural resources, compliance with environmental laws and regulations, and the maintenance of quality lands to support the military mission. Information from the INRMP was used during the preparation of this EA document.

2.3 PROJECT 1: Hardened Missile Motor Magazines (U)

(U) The Navy would construct 15 hardened missile motor magazines, providing a total storage area of 48,400 square feet (sq ft) within the LA at NBK at Bangor (see Figures 2 and 3,

(U) Appendix C, designated UCNI). The magazines would have reinforced concrete foundations, footings, walls, floors, and aprons. A thick layer of soil and a concrete slab on top of the soil cover would be installed over the magazines. An earthen berm would be installed in front of each magazine.

(U) Blast-resistant motorized doors would be equipped with an air inflation seal system. Each magazine would incorporate a mechanical room and climate control, ordnance ground, lightning protection, intrusion detection, and supervisory control and data collection systems. Utility lines would be installed underground. Paved access roads would be constructed to provide access to each magazine. Construction is scheduled for Fiscal Years (FYs) 2012 and 2013. An estimated 60,000 cubic yards (cu yd) of soil would be excavated to prepare the proposed site for construction of the magazines. About 605,000 cu yd of soil would be emplaced as earth cover or to create berms.

(U) The construction of the hardened missile motor magazines and the new LAPSC would require large amounts of soil for use as fill and cover. Soil excavated during site preparation for these projects would be used as fill as much as possible, but would not supply all of the fill material needed. To obtain the necessary fill material, the Navy would remove soil from two borrow areas located within and adjacent to the LA at NBK at Bangor. Borrow Area A is a roughly 24-acre area located at the proposed LAPSC site and adjacent land to the west. Borrow Area B is a roughly 31-acre area located west of the proposed sites for the hardened missile motor magazines. Both borrow areas have been previously graded and cleared of vegetation during the initial base construction. Borrow Area A has partially been revegetated with some trees and undergrowth. Borrow Area B is vegetated with grass and low ground cover only. Laboratory tests confirm that native soil at the borrow areas is suitable for use as fill material (Holcomb, et al., 2003).

(U) The Navy construction contractor would install a temporary concrete batch plant at NBK at Bangor to produce concrete for Project 1. The plant would have an estimated production capacity of 200 to 250 cu yd per hour of concrete. The annual output of concrete from the plant is estimated at 50,000 cu yd. At the completion of Project 1, the plant would be dismantled and removed, then reinstalled when Project 2 is scheduled to begin ground-breaking.

(U) The Navy considered alternative locations for constructing magazines at NBK at Bangor in its March 1974 Draft Environmental Impact Statement (Department of the Navy, 1974). The Navy concluded in 1974 that the proposed LA site was the optimum location based on comprehensive planning that addressed operational constraints and the environmental impacts of construction and operation of Base facilities. In 1989, the Navy evaluated the environmental impact of constructing magazines at the proposed LA site in the EA for the Trident D-5 Facilities Upgrade Program (Department of the Navy, 1989). This document builds upon analyses contained in the 1989 document to evaluate potential environmental impacts of the current design concept for the magazines.

(U) The structural requirements identified for proposed magazines in response to the *2002 Systems Effectiveness Assessment of the Physical Security Systems at Naval Submarine Base, Bangor*, SECRET/FRD (Sandia National Laboratory, 2002) mandate building new structures. Retrofit of existing magazines is not a practical alternative because extensive demolition would be required before the new hardened magazines could be built. The existing magazines must be operational at all times to meet mission requirements; accordingly, demolition for retrofit is not an acceptable alternative. Appendix A, classified as SECRET/FRD, provides additional information on design requirements.

2.4 PROJECT 2: LAPSC (U)

(U) The Navy would construct and operate a new facility capable of processing program assets at the location shown in Figures 2 and 3, Appendix C, designated UCNI. Two existing buildings (which have a total floor area of about 65,000 sq ft) are currently used for this function and would be demolished when the LAPSC is constructed. The new building would have a 97,000 sq ft footprint and would consist of a multilevel (mostly underground) structure with a reinforced concrete foundation, hardened floors, and hardened load-bearing walls and roof. About 378,000 cu yd of soil would be excavated during the construction of the LAPSC. The underground portion of the structure would be covered with a thick layer of soil and a concrete slab on top of the soil. The soil cover would contain about 307,000 cu yd of earth and the concrete slab would contain 11,000 cu yd of concrete. The LAPSC would be equipped with electrical and mechanical systems, climate-control systems, intrusion detection sensors, lightning protection, cranes (each with a 4,000-pound lift capacity), elevators serving all levels, and a dedicated emergency diesel-fuel generator. The new building would replace existing buildings in the LA, which would be dismantled and removed. Any hazardous waste generated during the dismantling of the existing LA buildings would be disposed of at a licensed hazardous waste disposal facility. Two new watchtowers similar to the existing towers at the LA would be constructed in close proximity to the new LAPSC. The construction of the LAPSC and the demolition and removal of the existing buildings are scheduled for FYs 2006 and 2007.

(U) The LAPSC would be located at a previously disturbed site, which is currently outside, but adjacent to, the existing western boundary of the LA. The existing LA perimeter fence would be shifted to enclose the LAPSC prior to the completion of construction. The site meets operational and security requirements for locating the building within the LA and was identified in previous environmental studies as an area in which construction would have minimal environmental impact. The selection of this site for buildings with similar capabilities for processing program assets has been addressed in previous environmental documents and is consistent with development discussed in those documents (Department of the Navy, 1989).

(U) It is not feasible to incorporate the existing processing facilities into the LAPSC design. The structural members of those facilities would not be useful for construction of the LAPSC. The existing buildings must be operational at all times to meet mission requirements;

(U) accordingly, demolition for retrofit is not an acceptable alternative. Appendix A, classified as SECRET/FRD, provides additional information on design requirements.

2.5 Alternatives Considered (U)

(U) Navy SSP has determined there are no reasonable alternatives for the proposed actions. Appendix A, classified as SECRET/FRD, provides detailed discussion of the proposed actions and the requirements the proposed actions must meet.

2.6 No-Action Alternative (U)

(U) The no-action alternative consists of the continued use of existing facilities without improvements that would result from the implementation of the proposed actions. No new construction of buildings would occur. The existing missile motor magazines and LA production facilities would remain unchanged. Because this alternative would not achieve the required security objectives, the Navy has rejected this alternative. The environmental effects of this alternative are analyzed in this EA for comparison purposes.

3 EXISTING ENVIRONMENT (U)

3.1 Land Use and Coastal Zone Management (U)

(U) NBK at Bangor is located in Kitsap County, Washington. The Base is on property owned and administered by the Navy. The two proposed projects would be implemented within the boundaries of NBK at Bangor.

(U) Washington is a coastal state and has an active Coastal Zone Management Act (CZMA) program administered by the various coastal counties in the state. The Kitsap County Shoreline Management Master Plan (KCSMMP) implements the Washington State Shoreline Management Act at the local level (Department of Community Development, 1999). The KCSMMP applies the policies and goals of the State Act to the features of Kitsap County. Because the Kitsap County Master Program is adopted by the Washington State Department of Ecology (WA DOE), it has the authority of state law. The KCSMMP applies to any development within 200 feet (ft) of the shoreline (Washington State Department of Ecology, 1971).

(U) Kitsap County does not require zoning or development approvals for projects at NBK at Bangor (see the Kitsap County Community Development Department telephone conversation record in Appendix D).

3.1.1 PROJECT 1: Hardened Missile Motor Magazines (U)

(U) The proposed location for the hardened missile motor magazines and adjacent Borrow Area B is within the LA at NBK at Bangor. The entire LA is kept clear of vegetation and is fenced for security. The new magazines would be placed adjacent to the existing magazines, as shown in Figure 3, Appendix C, designated UCNI.

3.1.2 PROJECT 2: LAPSC (U)

(U) The proposed location for the LAPSC is adjacent to the existing LA production and storage facilities and the existing LA at NBK at Bangor. This area and Borrow Area A were disturbed during prior construction and are mostly cleared of vegetation. A small portion of the construction and borrow area is vegetated with a mixture of brush and trees.

3.2 Construction and Operational Noise (U)

(U) The two weapons security projects are proposed at an active military base. Existing noise levels at these locations are relatively low. Noise is generated by the existing naval activities at LA at NBK at Bangor, including movements of vehicles, the periodic operation of emergency generators located in the LA, and the operation of climate control systems at existing buildings. Industrial activities occur primarily within buildings and do not affect exterior noise

(U) levels. The nearest noise-sensitive land uses are residences located about 0.8 miles (mi) west of the LA.

3.3 Socioeconomics/Environmental Justice (U)

(U) Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations*, requires that federal agencies examine the potential for their actions to adversely affect low-income or minority communities (President, 1994). NBK at Bangor is located in Kitsap County, Washington. NBK at Bangor is in Census Tract 903. According to data from the *Census 2000 Summary File 1 (SF 1) 100-Percent Data and Census 2000 Summary File 3 (SF 3)—Sample Data*, Census Tract 903 has a population of 7,253 persons. Census data from 2000 for Census Tract 903 and for Kitsap County as a whole are presented in Table 1.

Table 1 (U)

Census Data for Census Tract 903 and Kitsap County, Washington (U)

	Census Tract 903	Kitsap County
Households	1,282	86,416
Persons	7,253	231,969
Minority Persons*	1,688	36,488
Percentage Minority*	23.3	15.7
Persons Employed	2,566	108,770
Persons Unemployed	102	6,285
Percentage Unemployed	3.8	5.5
Average per Capita Income	$16,383	$22,317
Percentage In Poverty	9.8	8.8

* (U) Minority = persons of Black, American Indian, Asian, Hispanic, or other (nonwhite) race.

3.4 Air Quality (U)

(U) Air quality is analyzed and regulated by federal, state, and regional agencies under authority of the Clean Air Act (CAA) of 1970 and the Clean Air Act Amendments (CAAAs) of 1977 and 1990. As required by the CAA, the Environmental Protection Agency (EPA) promulgated primary and secondary National Ambient Air Quality Standards (NAAQS) for six "criteria" pollutants: particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}); nitrogen oxides (NO_x); sulfur dioxide (SO_2); lead (Pb); ozone (O_3); and carbon monoxide (CO). The CAAA of 1990 identified certain areas of the country as being in nonattainment of the NAAQS. Each state is required to submit, for federal approval, a State Implementation Plan (SIP). The SIP specifies actions designed to bring nonattaining areas into conformity with federal air quality standards.

(U) The WA DOE oversees the federally approved SIP for Washington. Kitsap County is considered to be in attainment of NAAQS for all of the criteria pollutants (Environmental Protection Agency, 2003). An existing emergency generator located at the LA operates on diesel fuel. That generator operates periodically during loss of primary electric power and for maintenance purposes. When operating, the generator emits air pollutants, including NO_x, CO, SO_2, and particulate matter.

3.5 Geology and Soils (U)

(U) NBK at Bangor is located in the Puget Lowland physiographic province, a broad low-lying trough located between the Cascade Range to the east and the Olympic Mountains and Willapa Hills to the west. The Puget Lowland is underlain by Tertiary-age (65 million to 1.8 million years ago) sedimentary rocks, underlain by volcanic rock. The oldest of these sedimentary rocks consists of unconsolidated deposits of sandstone, shales, and coals (Washington Department of Natural Resources [WA DNR], 2003).

(U) During the Quaternary period (1.8 million years ago to recent) several glacial events covered the region, resulting in deposits of outwash sands and gravels, glacial tills, and silts and clays. The outwash deposits consist of thin deposits of interbedded sand and gravel occurring primarily in ancient north-south-oriented outwash channels created during glacial recession. The glacial till deposits consist of thin to thick (2 ft to 50 ft) deposits composed of gravel and boulders suspended in a matrix of clay, silt, and sand that were deposited at the base of the glacier as it advanced. The silt and clay deposits consist of laminated layers of silt and clay with interlayered bands of sand and gravel that were deposited as interglacial lake sediments (NSB Bangor, 1999).

(U) Soil of the project areas is mapped primarily as disturbed cemented till. A portion of the LAPSC site and Borrow Area A is mapped as Alderwood very gravelly sandy loam on 0 to 6 percent slope by the Natural Resources Conservation Service (NRCS). A detailed description of Alderwood soil is included in Appendix D. A geotechnical report was prepared in 1989 for the construction of structures at the LA. Nine boreholes were drilled to depths ranging from 28.4 ft to 29.0 ft below the surface during July 1987, and two additional boreholes were drilled to depths of 78.8 ft and 79.5 ft in May 1989. The study found that surface soils consisted of glacial till composed of slightly gravelly, silty fine sand extending to 25 ft in depth below the ground surface. Outwash soils composed of fine to medium sand are found underneath the surface till. None of the boreholes encountered groundwater, indicating that groundwater occurs at great depths beneath the surface (Hart Crowser, Inc., 1989).

(U) No recognized mineral resources are present in the study area, nor are there any concentrations of mineral operations, quarries or other established sources of nonfuel mineral resources in the close vicinity (U.S. Geological Survey [USGS], 2003a).

(U) The site is within a region designated as Seismic Risk Zone 3, an area with high potential for earthquake hazards (Washington Department of Natural Resources, 2003).

3.6 Water Quality (U)

(U) NBK at Bangor has a temperate oceanic climate. The base receives about 47 inches of precipitation per year, which occurs throughout the year but is typically heaviest in late fall and winter. Annual snowfall averages 16 inches per year, which usually melts shortly after reaching the ground (NSB Bangor, 1999).

(U) The topography of NBK at Bangor is characterized by flat-topped ridges on the eastern and southern portions of the base, which range in elevation from 200 ft to 400 ft above mean sea level (MSL). Steep ravines and hillsides slope downwards to the shoreline of Hood Canal from the upper portions of the base. The locations of the hardened missile motor magazines and adjacent Borrow Area B are at 340 ft to 400 ft above MSL and the locations of the LAPSC and adjacent Borrow Area A are at 300 ft to 350 ft above MSL. The proposed locations of the magazines, LAPSC, and Borrow Areas A and B are upland ridgecrest locations and have slope gradients of less than 5 percent (U.S. Geological Survey, 1981). The LA is within the watersheds of four permanent streams that drain into Hood Canal (see Figure 2, Appendix C, designated UCNI). These streams, ranging from 4,000 ft to 8,000 ft in length, flow northwestward in incised ravines and discharge at the following locations: south of the Delta Pier, north of the Marginal Wharf, and south of the Explosives Handling Wharf (EHW).

(U) Water resources in the area consist primarily of the four streams that flow west through the steep slopes of the northwest portion of NBK at Bangor into Hood Canal, and regional groundwater aquifers. Precipitation is the primary source of groundwater recharge, with the heaviest precipitation occurring during the winter months. Regional groundwater flow is generally from east to west beneath the site (NSB Bangor, 1999).

(U) Potable water on the base is managed by the NBK at Bangor Public Works Department, which operates four groundwater wells, two water towers, two underground storage tanks, and an industrial wastewater pretreatment plant. The base also implements the following three plans to protect its water resources: the Storm Water Pollution Prevention Plan; the Well Head Protection Plan; and the Spill Prevention, Control, and Countermeasures Plan.

(U) NBK at Bangor historically served as a Naval Ammunitions Depot, resulting in contamination of media at the base. The contaminants include ordnance chemicals, trace metals, chlorinated hydrocarbons, petroleum hydrocarbons, pesticides, and polychlorinated biphenyls (PCBs). The Installation Restoration (IR) Program at NBK at Bangor is responsible for the characterization and remediation of contaminated areas at the base. There are no IR sites at the proposed locations of Projects 1 and 2 (Engineering Field Activity, Northwest, 2001).

3.7 Wetlands (U)

(U) Executive Order 11990, *Protection of Wetlands*, requires federal agencies locate facilities outside federal jurisdictional wetlands, unless there is no practicable alternative location and the proposed actions incorporate all practical measures to minimize harm to the affected wetlands (President, 1977b).

(U) U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps were reviewed to identify federal jurisdictional wetlands that occur at or near the proposed locations of the projects (see NWI map in Appendix C, designated UCNI). Federal jurisdictional wetlands are not present at the two project locations. The closest wetlands to the proposed locations for the hardened missile motor magazines are palustrine scrub-shrub seasonally flooded wetlands (PSSC) about 900 ft to the east, across Flier Road. No wetlands are mapped at Borrow Area B; the closest wetlands are palustrine open water (POWKx), located about 400 ft to the east. No wetlands are mapped at the LAPSC site or Borrow Area A; the closest wetlands to Project 2 are POWKx located about 1,000 ft southeast of the borrow area.

3.8 Floodplains (U)

(U) Executive Order 11988, *Floodplain Management*, requires that federal agencies locate facilities outside the 100-year or base floodplain, unless there is no practicable alternative location (President, 1977a). The Federal Emergency Management Administration (FEMA) has published flood hazard maps for Kitsap County, but those maps do not include NBK at Bangor (Federal Emergency Management Agency, 1980). The proposed new facilities would be distant from the shoreline of Hood Canal and at elevations of 100 ft to 400 ft above MSL. These facilities would not be subject to coastal flooding. The streams draining the LA and waterfront area are short and located in deeply incised ravines. They would flood only adjacent areas within those ravines. None of the proposed facilities would be located in ravines.

3.9 Historical, Architectural, Archaeological, and Cultural Resources (U)

(U) Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) requires federal agencies to consider the effects of their actions on historic properties and to seek comments from the State Historic Preservation Officer (SHPO) and Advisory Council on Historic Preservation (ACHP). Section 106 requirements are set forth in 36 CFR Part 800, *Protection of Historic and Cultural Properties.* There are no historic places listed on the National Register of Historic Places (NRHP) at NBK at Bangor. The historic places nearest to NBK at Bangor listed on the National Register Information System (NRIS) are the Duckabush River Bridge, the Jackson Hall Memorial Community Hall, the Bainbridge Island Filipino Community Hall, the Agate Pass Bridge, and the Old-Man-House site. The Jackson Hall Memorial Community Hall, the nearest listed historic place, is approximately 5 mi south of the closest project location (see NRIS historic properties map in Appendix D). The INRMP for Subase Bangor (December 1999) was written in compliance with goals of the Historic and

(U) Archaeological Resources Protection Plan (HARP) for Subase Bangor (March 1996), which outlined management practices of National Register resources on base "in a manner compatible with the mission of the SUBASE."

(U) NBK at Bangor maintains a cooperative project with the Suquamish tribal members for traditional harvests of cedar inner bark for use in baskets and traditional dance costumes (NSB Bangor, 1999). A Cooperative Agreement signed in 1997 with the Point No Point Treaty Council (Skokomish, Port Gamble S'Klallam, Lower Elwha S'Klallam, and Jamestown S'Clallam Tribes) permits tribal access to the tidal beach south of the Delta Pier for the enhancement, perpetuation, and harvest of shellfish (NSB Bangor, 1999).

3.10 Biological Resources/Endangered and Threatened Species (U)

(U) The following federally listed endangered and threatened species may occur in the vicinity of the proposed weapons security improvements (see USFWS letter in Appendix E):

- (U) Bald eagle (Haliaeetus leucocephalus)
- (U) Bull trout (Salvelinus confluentus)
- (U) Foraging marbled murrelets (Brachyramphus marmoratus)
- (U) Long-eared myotis (Myotis evotis)
- (U) Long-legged myotis (Myotis volans)
- (U) Northern goshawk (Accipiter gentilis)
- (U) Northern sea otter (Enhydra lutris kenyoni)
- (U) Northwestern pond turtle (Emys [=Clemmys] marmorata marmorata)
- (U) Pacific lamprey (Lampetra tridentata)
- (U) Pacific Townsend's big-eared bat (Corynorhinus townsendii townsendii)
- (U) Peregrine falcon (Falco peregrinus)
- (U) River lamprey (Lampetra ayresi)
- (U) Tailed frog (Ascaphus truei)
- (U) Western toad (Bufo boreas)
- (U) Abronia umbellata ssp. acutalata (rose-purple sand verbena).

(U) One bald eagle (*Haliaeetus leucocephalus*) nesting territory is located in the general vicinity of the proposed weapons security improvements at Township 26 North, Range 1 East, Section 5. That nesting territory is about 3 mi from the nearest construction activity (see USFWS letter in Appendix E). The INRMP identifies only four federally listed endangered species as occurring on Subase Bangor: the bald eagle, marbled murrelet, Puget Sound chinook salmon, and Hood Canal summer run chum salmon. Subase Bangor does not contain old-growth

(U) forest that could serve as marbled murrelet habitat, and the two proposed projects would not affect the marine waters of Hood Canal, where the marbled murrelet feeds. Chinook salmon have occurred in the streams that feed Devils Hole, an artificial lake on Subase Bangor located south of the Delta Pier. Chum salmon have not been found in Subase streams.

3.11 Wild and Scenic Rivers/Wilderness Areas (U)

(U) The Department of Interior, National Park Service (NPS), maintains a list of designated national wild and scenic rivers. The closest designated rivers to NBK at Bangor are the Klickitat, Skagit, and White Salmon Rivers in the State of Washington. All three rivers are over 100 mi from NBK at Bangor (NPS, 2003).

3.12 Farmland (U)

(U) The Farmland Protection Policy Act (FPPA) sets forth federal policies to prevent the unnecessary conversion of agricultural land to non-agricultural use. NRCS regulations at 7 CFR Part 658, *Farmland Protection Policy Act*, are designed to implement those policies. Regulations at 7 CFR 658.2(a) exclude from definition as farmland those lands already in urban use or committed to urban development or water storage.

(U) The locations of the proposed projects are in existing developed areas of NBK at Bangor and are dedicated to military use. These areas are not in agricultural use and are not farmland as protected by the FPPA.

3.13 Energy Consumption (U)

(U) Existing facilities at NBK at Bangor use electricity supplied by the base transmission grid. The base operates emergency generators to provide electric power during emergencies. A diesel-fueled emergency generator provides emergency electric power for facilities in the LA.

3.14 Visual Aesthetics/Light Emissions (U)

(U) The proposed weapons security improvements would be located at developed portions of NBK at Bangor, which are dedicated to military use. Projects 1 and 2 would be located in the LA, which is heavily secured and well-illuminated during hours of darkness. The LA is completely fenced and mostly cleared of vegetation for security purposes. Borrow Area A is mostly vegetated and is not illuminated. Borrow Area B is in a cleared area and is partially lighted by the adjacent illuminated LA.

3.15 Solid and Hazardous Waste/Pollution Prevention (U)

(U) OPNAVINST 5090.1B, Chapter 3 addresses the policies and regulations the Navy follows to prevent pollution and control solid and hazardous waste (Department of the Navy, Office of the Chief of Naval Operations, 2003).

(U) NBK at Bangor is listed on the Department of Defense database for hazardous sites. The Installation Restoration (IR) Program has developed a management plan that includes institutional controls (ICs) for areas of known contamination. ICs are a form of land use restriction to protect the environment and human health. No ICs are present at the proposed locations for Projects 1 and 2 (Engineering Field Activity, Northwest, 2001).

3.16 Transportation (U)

(U) Washington State Highway (SH) 3 provides access to NBK at Bangor from points north and south. In the vicinity of the base, SH 3 is a four-lane divided highway. SH 3 connects to SH 16 south of Bremerton, and SH 16 connects to Interstate 5 at Tacoma, about 35 mi south of the base. Internal roads at NBK at Bangor provide access to the LA. Within the LA, Allen Road accesses the proposed LAPSC location and Flier Road accesses the proposed magazine locations. Allen and Flier Roads are two-lane paved roads.

4 ENVIRONMENTAL CONSEQUENCES AND MITIGATION (U)

4.1 Proposed Actions (U)

4.1.1 Land Use and Coastal Zone Management (U)

(U) The CZMA's Federal consistency provision (CZMA Section 307) requires that Federal agency actions, inside or outside designated state coastal zones, that affect any coastal use or resource must be consistent with the Federally approved enforceable policies of the state's coastal management program.

4.1.1.1 PROJECT 1: Hardened Missile Motor Magazines (U)

(U) The new magazines would be placed adjacent to the existing magazines, as shown in Figure 3, Appendix C, designated UCNI. All proposed construction activities would occur within the LA. The area directly affected by magazine construction would be about 22 acres. An additional area of up to 31 acres at Borrow Area B may be affected, but it is likely that only a portion of that area would actually be excavated. The maximum area disturbed would be 53 acres. The new magazines would not change the use of the area or adversely affect land uses at the base or off base. This project would be consistent to the maximum extent practicable with the enforceable state policies.

(U) This proposed project would not occur within 200 ft of Hood Canal. Impacts to coastal resources or coastal use protected by the KCSMMP would not occur. Accordingly, Project 1 is consistent with the Federally approved enforceable policies of the state's coastal management program.

4.1.1.2 PROJECT 2: LAPSC (U)

(U) The proposed new LAPSC would replace the buildings currently used for the LA production capabilities, which would be demolished, removed, and disposed of at a facility licensed to handle potentially hazardous wastes. The boundary of the LA would be shifted northward to completely encompass the new LAPSC. No change in the use of the LA would result. About 307,000 cu yd of soil would be needed for the earth cover. The soil would be obtained through the use of soil excavated during site preparation and the removal of soil from Borrow Area A. Clean soil would be used for fill and earth cover.

(U) The construction of the LAPSC would affect an area of about 450 ft × 400 ft, or about 4.1 acres. Up to 24 acres would also be disturbed at Borrow Area A, but it is likely that only a portion of the 24 acres would actually be excavated. The new LAPSC would continue existing military operations within the LA. No adverse effects on nearby uses on base or off base uses would result. This project would be consistent to the maximum extent practicable with the enforceable state policies.

(U) This proposed project would not occur within 200 ft of Hood Canal. Impacts to coastal resources or coastal use protected by the KCSMMP would not occur. Accordingly, Project 2 is consistent with the Federally approved enforceable policies of the state's coastal management program.

4.1.1.3 Mitigation and Required Permits/Approvals (U)

(U) No mitigation would be required.

4.1.2 Construction and Operational Noise (U)

4.1.2.1 Projects 1 and 2 (U)

(U) The construction of the hardened missile motor magazines and LAPSC would generate noise typical of construction activities. The peak level of noise at 50 ft from the source of noise would be about 89 A-weighted decibels (dBA) (Bolt, Beranek, and Newman, 1971). For comparison purposes, a noise level of 89 dBA is similar to the noise level at 3 ft from an electric food blender and less than the noise level at 3 ft from a gasoline-powered lawn mower (Sailor, Johnson & Associates, Inc., 1990). Noise would occur primarily during normal working hours and would dissipate with distance from the source. The nearest potentially sensitive receptor is residences at least 0.8 mi from construction areas. At that distance, the maximum noise levels during construction would be greatly reduced. Construction noise would occur intermittently and sporadically during the construction process and would be an insignificant and temporary impact.

(U) The noise generated during the operation of the new facilities would not differ greatly from the existing noises of the waterfront areas. The security fence patrols and movement of vehicles at the new facilities would generate noise. Overall, noise levels are not expected to change from existing levels. No significant impacts would result on noise-sensitive uses on base or off base.

4.1.2.2 Mitigation and Required Permits/Approvals (U)

(U) No mitigation would be required.

4.1.3 Socioeconomics/Environmental Justice (U)

4.1.3.1 Projects 1 and 2 (U)

(U) As shown in Table 1, the census tract containing NBK at Bangor has a minority population of 23.3 percent, which is considerably more than in Kitsap County as a whole. Although the per capita income of the census tract is much lower than that of the county as a whole, the rate of unemployment is lower in the census tract and poverty rates are similar in the census tract and county as a whole (U.S. Census Bureau, 2002). Disproportionately high and

(U) adverse environmental effects would not result on either minority or low-income populations of the area, or on the population as a whole.

(U) Construction of the proposed projects would not result in an increase in permanent employment at NBK at Bangor. Any increased demand on public services would likewise be insignificant.

4.1.3.2 Mitigation and Required Permits/Approvals (U)

(U) No mitigation would be required.

4.1.4 Air Quality (U)

4.1.4.1 Projects 1 and 2 (U)

(U) Short-term impacts are those that would occur during the site preparation and construction of the proposed hardened missile motor magazines and LAPSC. The operation of construction equipment, including bulldozers, pan scrapers, graders, rollers, front-end loaders, haul trucks, water trucks, compactors, compressors and mobile cranes, would occur at varying stages of construction. Worker equipment and vehicles would access the project area during the entire construction period. The transport of materials and personnel to and from the proposed work areas is not expected to exceed 50 mi each workday. Emissions of ozone precursors, volatile organic compounds (VOCs) and NO_x would be far below all minimum emission threshold levels set forth in the Washington SIP.

(U) Construction activities also would release small quantities of PM_{10} in the form of fugitive dust. Permitting through the Puget Sound Clean Air Agency (PSCAA) is required for activities in the Bangor, Washington area that may result in the release of 25 tons per year (tpy) or more of PM_{10}. Under 40 CFR 51.853(b)(2), a federal conformity determination would be required for PM_{10} emissions in excess of 100 tpy. Because construction vehicles would travel mostly over paved roads, and because most soils in the Bangor area have very low silt content and generally high moisture content, the release of PM_{10} is not expected to exceed regulatory levels. Although the proposed projects entail the excavation and movement of substantial amounts of earth, the nature of the soil is such that the utilization of standard dust-suppression measures would prevent the release of significant quantities of fugitive dust. These measures, such as the sprinkling of water on areas of exposed soil or the use of chemical surfactants, would maintain PM_{10} emissions below all regulatory thresholds.

(U) Under the air quality rules promulgated by the WA DOE, the PSCAA is responsible for regulating air emissions in the Puget Sound region. Batch plants require permitting to control particulate matter generated during operation, and also require the use of best available control technology (BACT), as required by Washington State Statute RCW 70.94.152. Pursuant to PSCAA's Regulation I (Regulations) New Source Review §6.03, the Navy must file with the PSCAA a Notice of Construction application for the proposed concrete batch plant if the *rated*

(U) *capacity* of the batch plant is above 15 cu yd per hour (see Puget Sound Clean Air Agency telephone conversation record in Appendix D), and must obtain from the PSCAA an Order of Approval. Within 30 days of the installation of the concrete batch plant, the Navy must file a Notice of Completion with the PSCAA.

(U) Long-term impacts are those that would occur during the post-construction operation of the proposed facilities. The only sources of emissions from the proposed facilities would be staff and government vehicles, and the emergency generator (a Kohler Model 1000RODZ-4 1,000kW diesel generator) that would be utilized only in the event of a disruption of primary power service and for monthly testing. The use of the generator would not be of a sustained nature; assuming 200 hr of annual use, emissions from the generator would be approximately 1.5 tpy NO_x, 0.06 tpy CO, 0.5 tpy SO_2, and 0.01 tpy total particulate matter. Pursuant to PSCAA Regulation I §6.03(c)(3)(C), standby emergency generators operated fewer than 500 hr per year are exempt from permitting "provided that they are not operated at a facility with a power supply contract that offers a lower rate in exchange for the power supplier's ability to curtail energy consumption with prior notice." The generator to be installed under the proposed actions would qualify for the exemption.

(U) EPA regulations at 40 CFR Part 93, *Determining Conformity of Federal Actions to State or Federal Implementation Plans*, require a conformity determination for federal projects in air quality nonattainment and maintenance areas and for federally funded highway or transit projects. The proposed actions would not be located in a nonattainment or maintenance area and is not a transit or highway project. A federal conformity determination would not be required to implement the proposed actions.

4.1.4.2 Mitigation and Required Permits/Approvals (U)

(U) To minimize fugitive dust generation, soil exposed during construction would be sprinkled with water or treated with surfactants as necessary.

(U) The Navy would file a Notice of Construction of the concrete batch plant with the PSCAA and obtain PSCAA approval. Within 30 days after installation of the concrete batch plant, the Navy would file a Notice of Completion with the PSCAA.

4.1.5 Geology and Soils (U)

4.1.5.1 Projects 1 and 2 (U)

(U) The site preparation and construction would require the clearing of vegetation, if present, and soil disturbance over several areas of the base, consisting of construction sites for the hardened missile motor magazines, the LAPSC, Borrow Areas A and B adjacent to the LAPSC, and hardened missile motor magazines sites. The construction of the hardened missile motor magazines would affect an area of up to 22 acres. Up to an additional 31 acres would be disturbed at Borrow Area B. The LAPSC addition would be constructed in an area of up to

(U) 4 acres, including the building footprint and adjacent areas that would be affected by construction. Up to 24 acres at Borrow Area A would also be disturbed. Table 2 gives a summary of areas to be disturbed for construction of the two projects comprising the proposed actions.

Table 2 (U)

Maximum Area of Soil Disturbance (U)

Project	Area Disturbed (acres)
Hardened Missile Motor Magazines (including Borrow Area B)	53
LAPSC (including Borrow Area A)	28
TOTAL	81

(U) The total area of soil disturbance during construction would be up to 81 acres. However, it is likely that a much smaller area would actually be disturbed because only a portion of Borrow Areas A and B would require excavation to produce the necessary fill material. The construction of the hardened missile motor magazines and LAPSC would require the excavation of 60,000 cu yd and 378,000 cu yd of soil, respectively. The total amount of soil to be excavated for both projects is estimated at about 438,000 cu yd, rounded to 440,000 cu yd. The hardened missile motor magazines would require 335,000 cu yd of soil for earth cover or fill and 270,000 cu yd of soil to build berms. The LAPSC would require 307,000 cu yd of soil for earth cover. The total amount of soil placed as fill, earth cover, berm material, or trench backfill for the two projects is estimated at 910,000 cu yd. Some or all of the 440,000 cu yd of soil excavated for these projects would be used as fill, depending upon its suitability for use as engineered fill. The excavated material would supply at most 48 percent of the volume of fill and cover material required for the two projects. An estimated 470,000 cu yd of fill material would have to be obtained. Borrow Areas A and B would be expected to provide sufficient amounts of fill material for both projects. Soil from each of the borrow areas was tested and found to be free of contaminants and of suitable quality for use as engineered fill material (Holcomb et al., 2003). To produce the estimated amount of fill material—470,000 cu yd—would require excavation 20 ft deep over an area of about 15 acres. The combined area of Borrow Areas A and B is about 55 acres. Therefore, it is expected that those two borrow areas would be sufficient to meet the needs of the two projects.

(U) The soil at the disturbed areas would be subject to erosion by wind and water action and storm runoff could remove large amounts of soil from cleared and disturbed areas. On the other hand, the nearly level topography of the areas proposed for construction would reduce the potential for erosion. The projects would comply with applicable Washington State and federal requirements for best management practices to control stormwater flow and prevent erosion. To minimize the potential for significant erosion and washing of soil into drainages, a Stormwater

(U) Pollution Prevent Plan (SWPPP) would be prepared by a civil engineer as a requirement of the EPA's Construction General Permit. The plan would provide details on grading to control and collect runoff, the use of barriers and silt fences to retain soil on site, and the direction of runoff into detention basins to trap silt and prevent the sedimentation of on-base drainages and Hood Canal.

(U) After the construction of the proposed facilities is complete, the areas of soil disturbance would be covered by structures or pavement or revegetated with native vegetation, either by landscaping or hydroseeding. Excavated portions of Borrow Areas A and B would be graded and revegetated to promote long-term stability. The final topography would be designed to promote flow of storm runoff to the base drainage system. Closed depressions, except for engineered detention ponds, would be avoided to prevent accumulation of runoff. Final slope gradients would be gentle to prevent accelerated erosion. These actions would stabilize the soil in the long term and reduce the potential for future erosion.

4.1.5.2 Mitigation and Required Permits/Approvals (U)

(U) To minimize the potential for soil erosion, erosion control plans for the installation of the weapons security facilities would be prepared by a civil engineer and implemented during construction. Construction best management practices (BMPs) such as the placement of silt fences at the edges of disturbed areas, grading to control runoff, the placement of hay bales across drainage ditches, and the grading and seeding of disturbed areas would be employed to control soil erosion and sedimentation.

4.1.6 Water Quality (U)

4.1.6.1 Projects 1 and 2 (U)

(U) The proposed weapons security facilities would connect to the base water and sanitary sewer utilities. The existing base water and sewer utilities are expected to have adequate capacities to accommodate the increased demand generated by the proposed facilities.

(U) The total area of soil to be disturbed during the construction of the weapons security facilities would be up to 81 acres; the area cleared of vegetation and mechanically graded would be subject to wind and water erosion. The construction projects would, however, comply with applicable federal stormwater design and temporary construction requirements for control of stormwater. Measures would be implemented during the construction periods to minimize the potential for erosion or slope instability. NBK at Bangor has a stormwater management pollution prevention plan, which is in compliance with EPA National Pollution Prevention Permit Number WAR05A01F (NSB Bangor, 1999). Stormwater runoff from construction areas would be directed into the base stormwater management system, composed of a network of drainage channels and detention ponds that collect stormwater for discharge to the base's permitted receiving waters. The detention ponds store stormwater for temporary periods during precipitation events to prevent excess flow of stormwater to drainage channels. Detained

(U) stormwater is released after the storm event passes in a controlled manner within the capacity of the drainage channels. The retention of stormwater also reduces the amount of sediment and associated pollutants carried by stormwater to Hood Canal. New stormwater retention facilities would be constructed as a part of the missile motor magazines and LAPSC projects if hydrologic and sediment analyses during design shows that additional treatment or detention capacity is needed. The total area of soil to be disturbed during the construction of the facilities would be up to 81 acres. However, the proposed construction would be spread over several years and only a portion of the 81-acre area would be cleared and exposed at any one time.

(U) The storm runoff from construction areas would flow into existing natural and artificial drainages that eventually discharge into Hood Canal. Along with sedimentation ponds, storm drains will be equipped with traps to minimize the discharge of pollutants into Hood Canal. The four streams described in section 3.6 above have a combined watershed area of about 2,500 acres. The proposed projects would disturb about 81 acres of ground, but much of that area consists of existing paved surfaces or construction areas that would be restored and allowed to revegetate after construction is complete. A number of new impervious surfaces would be created. An impervious concrete slab would be built on top of the missile motor magazines. Total impervious surface created would include approximately 10 acres for the hardened missile motor magazines and 5 acres at the LAPSC. The underground portion of the LAPSC and hardened missile motor magazines would be covered by earth, but a concrete slab would be installed on top of the earth cover and would be impervious. The total area of impervious surfaces generated by both projects would be about 15 acres. No significant effects on runoff rates or peak flows in base streams would result. Construction would occur outside the existing stream channels. No changes in drainage patterns would result.

(U) Because existing and newly constructed stormwater detention facilities would attenuate runoff flows, no increase in peak runoff flows would result and existing drainages of the area would be adequate to accommodate the expected runoff. Under EPA regulations at 40 CFR 122.26, a National Pollutant Discharge Elimination System (NPDES) permit is required for stormwater discharge from large construction areas (defined as 5 acres or greater). The Navy would be required to comply with the conditions of a General Permit issued by the EPA for the discharge of stormwater from a large construction area. Region 10 of the EPA administers the permit for federal facilities in the state of Washington.

(U) The operation of the facilities would generate domestic wastewater and storm runoff from roofs, parking areas, and walkways. Domestic wastewater would be collected by the base sewage system. Storm runoff would be treated in the detention ponds that handle runoff from developed portions of the base, including the proposed locations of new facilities. The increase in impervious surface area would result in increased flows of stormwater to the existing detention ponds. New stormwater retention facilities would be constructed as a part of the

(U) hardened missile motor magazines and LAPSC projects if analysis during design shows that additional treatment or retention capacity is needed.

4.1.6.2 Mitigation and Required Permits/Approvals (U)

(U) To minimize the potential impacts of the construction and operation of the weapons security facilities on the base's water resources, stormwater erosion control plans in compliance with the General Permit for the discharge of stormwater from Large Construction Areas, issued by Region 10 of the EPA, would be prepared and implemented.

(U) No direct discharge of wastewater or other materials to surface waters or ground water would occur. Stormwater runoff would be managed in accordance with the base's stormwater management pollution prevention plan. New stormwater retention facilities would be constructed as a part of the hardened missile motor magazines and LAPSC projects if analysis during design shows that additional treatment or retention capacity is needed.

(U) The emergency generator would require a diesel fuel storage tank. That fuel tank would be placed either underground or above ground and would be double walled or have secondary containment to prevent release of the fuel to the environment.

4.1.7 Wetlands (U)

4.1.7.1 Projects 1 and 2 (U)

(U) The proposed projects would not be located in federal jurisdictional wetlands and would not result in construction disturbance of wetlands. The nearest wetlands are sufficiently distant from the proposed construction areas—200 ft to 900 ft—that no indirect effects would result. No effects on wetland resources would result. The proposed actions would be in conformance with the protection of wetlands policies set forth in E.O. 11990.

4.1.7.2 Mitigation and Required Permits/Approvals (U)

(U) No mitigation would be required.

4.1.8 Floodplains (U)

4.1.8.1 Projects 1 and 2 (U)

(U) The proposed actions would be consistent with floodplain protection policies of E.O. 11988.

4.1.8.2 Mitigation and Required Permits/Approvals (U)

(U) No mitigation would be required.

4.1.9 Historical, Architectural, Archaeological, and Cultural Resources (U)

4.1.9.1 Projects 1 and 2 (U)

(U) In accordance with Section 106 of the NHPA, the State of Washington Office of Archaeology and Historic Preservation (i.e., SHPO) was consulted and concurred with the Navy description of the area of potential effect (see State of Washington Office of Archaeology and Historic Preservation letter in Appendix E). No places listed on the NRHP are within the areas of potential effect. No effects on historic resources are expected. Archaeological surveys conducted on Subase Bangor indicate that the salt water benches have the highest probability for findings to occur. However, it is remotely possible that artifacts would be unearthed during construction activities of the proposed projects. If artifacts of possible historic or cultural value are unearthed, the SHPO and local Tribal Councils will be notified to determine the significance of the find. NBK at Bangor maintains a HARP Plan to manage cultural and historic resources in a manner that is compatible with the military mission of NBK at Bangor and its tenant commands (NSB Bangor, 1999). The Navy would follow guidelines included in the HARP Plan should artifacts be uncovered.

(U) A small number of trees, which may include cedars, would be removed at the LAPSC site and adjacent Borrow Area A. Cedar inner bark has traditionally been harvested by Suquamish tribal members for use in baskets and traditional dance costumes. However, the LAPSC site is within secured areas at or adjacent to the LA at NBK at Bangor and tribal members are currently not allowed in that area for security and safety reasons.

4.1.9.2 Mitigation and Required Permits/Approvals (U)

(U) Although consultation with the SHPO indicates a low probability of uncovering archaeological resources during construction of the proposed weapons security improvements, such a discovery is possible. In the event that archaeological or historic materials are uncovered during project activities, work in the immediate vicinity would be discontinued, the area would be secured, and the local area tribes and SHPO would be notified.

4.1.10 Biological Resources/Endangered and Threatened Species (U)

4.1.10.1 Projects 1 and 2 (U)

(U) Projects 1 and 2 would occur in the LA, which is mostly devoid of vegetation and would not provide habitat for protected species based on the INRMP for NBK at Bangor (NSB Bangor, 1999). There are no reported occurrences of long-eared myotis, long-legged myotis, Pacific Townsend's big-eared bat, northern goshawk, or peregrine falcon within 1 mi of the proposed project locations (see USFWS letter in Appendix E). Transient individuals of these species may forage in the waterfront area (or in the LA, but that is less likely because of the mostly cleared condition of the LA); but those foraging activities would not be significantly affected. The proposed projects would disturb up to 81 acres, but most of that area would

(U) consist of currently developed or cleared land. Project 1 would be located at currently cleared and/or developed areas and would not result in substantial tree or vegetation removal. The amount of vegetated area removed would be about 1 acre for Project 2 (most of this area was previously cleared of vegetation), and up to 15 acres at Borrow Area A. The total area of vegetation removal would be up to 16 acres; the clearing of vegetation for both projects would have a negligible cumulative effect on the amount of foraging area available to the protected species listed in this paragraph.

(U) Bull trout, Pacific lamprey, and river lamprey are species of fish. The proposed projects would not require construction within the waters of Hood Canal. No effect on listed fish species would result.

(U) Northern sea otters, northwestern pond turtles, tailed frogs, and western toads inhabit the waters of Hood Canal, freshwater streams, or wetlands. As described previously, construction would not affect Hood Canal or wetlands areas. No effect on these species will occur.

(U) The proposed projects would be sufficiently distant from the known bald eagle nesting territory to preclude adverse effects.

(U) The proposed projects would result in no impacts on protected species and would clear relatively small areas of potential wildlife habitat. No protected plants have been observed in the areas of potential disturbance and suitable habitat for them is not present. No impacts would result on protected biological resources. The projects would not affect species managed by the National Marine Fisheries Service (see National Marine Fisheries Service telephone conversation record in Appendix E). The proposed actions will not adversely affect a designated essential fish habitat.

4.1.10.2 Mitigation and Required Permits/Approvals (U)

(U) Areas of vegetation removal would be minimized during construction and would be returned to their pre-existing condition after the improvement of road crossings and installation of utility lines.

4.1.11 Wild and Scenic Rivers/Wilderness Areas (U)

4.1.11.1 Projects 1 and 2 (U)

(U) Due to the distance between the proposed projects and any wild and scenic river, the projects would not result in direct or indirect effects on wild and scenic rivers.

4.1.11.2 Mitigation and Required Permits/Approvals (U)

(U) No mitigation would be required.

4.1.12 Farmland (U)

4.1.12.1 Projects 1 and 2 (U)

(U) The construction and operation of the proposed weapons security improvements would not affect farmlands.

4.1.12.2 Mitigation and Required Permits/Approvals (U)

(U) No mitigation would be required.

4.1.13 Energy Consumption (U)

4.1.13.1 Projects 1 and 2 (U)

(U) Equipment and vehicles would consume gasoline and diesel fuel during the construction period. The amount of fuel used would be insignificant, compared with existing use at the base and local communities.

(U) The hardened missile motor magazines and LAPSC would consume electricity. Required connections to the base electric transmission grid would be installed. The electric demand by the new facilities would not be substantial, compared with the available electric supplies at NBK at Bangor.

(U) The LAPSC would be designed with measures to promote energy efficiency, such as insulation to prevent heat loss and maintain cooling in keeping with E.O. 13123, *Greening the Government Through Efficient Energy Management.*

4.1.13.2 Mitigation and Required Permits/Approvals (U)

(U) No mitigation would be required.

4.1.14 Visual Aesthetics/Light Emissions (U)

4.1.14.1 Projects 1 and 2 (U)

(U) The new hardened missile motor magazines would be nearly identical to existing magazines at the LA. The new magazines would be covered by earth, reducing their visual profile. The LAPSC would be visually similar to the existing buildings at the LA. Up to two guard towers would be installed near the LAPSC for security purposes. Those towers would be highly visible from within the LA, but would be similar in size and appearance to existing guard towers at the LA. Exterior lighting would be installed as part of these projects and would add to the overall nighttime lighting at the LA. However, the LA is currently well lit and the added lighting would not be a significant change.

4.1.14.2 Mitigation and Required Permits/Approvals (U)

(U) No mitigation would be required.

4.1.15 Solid and Hazardous Waste/Pollution Prevention (U)

4.1.15.1 Projects 1 and 2 (U)

(U) The locations of the hardened missile motor magazines and LAPSC are outside of areas of known contamination and are not subject to ICs. It is unlikely that contaminated soil or groundwater would be encountered during the construction of those facilities (which also entail the demolition of the existing buildings in the LA). In the unlikely event that contaminated media is uncovered during construction, the Public Works Department and Environmental Office of NBK at Bangor would be notified and appropriate remedial actions would be implemented.

(U) The demolition of the two existing buildings at the LA would remove about 65,000 sq ft of floor space. Demolition of those buildings would allow construction of the new LAPSC and would generate large amounts of solid waste potentially containing hazardous materials. This waste would be removed and disposed of at a licensed hazardous waste disposal facility. The construction and operation of the proposed weapons security improvements would generate minimal amounts of wastes such as construction scrap, surplus materials, and cleaners. Those wastes would generally be nonhazardous and would be collected for disposal or recycling. Some wastes, such as chemicals used to clean or degrease equipment, may be considered hazardous. They would be separated from nonhazardous wastes for proper disposal.

4.1.15.2 Mitigation and Required Permits/Approvals (U)

(U) If contaminated media is uncovered during construction activities, the Environmental Department of NBK at Bangor would be notified and appropriate cleanup procedures would be implemented.

4.1.16 Transportation (U)

4.1.16.1 Projects 1 and 2 (U)

(U) Construction workers' vehicles, haul trucks, equipment suppliers, and delivery trucks would use SH 3 to access NBK at Bangor through the main gate. Internal roads of the base provide access to all construction areas. To prevent congestion at the main gate, the Navy would establish security procedures for construction workers' vehicles and trucks. NBK at Bangor Public Works and Security would coordinate with the construction companies to ensure that proper road controls are implemented to ensure the safe staging of equipment and materials during the construction process.

(U) A typical haul truck has a capacity of about 20 cu yd; therefore, transportation of 470,000 cu yd to 910,000 cu yd of fill would require between 23,500 and 45,500 two-way truck trips. Those trips would be within the construction areas or between the construction area and Borrow Areas A and B. Workers' vehicles and delivery trucks would add to the number of trips during the construction period. Although a large number of vehicle trips would be added to the internal base road system, those trips would be limited to the LA and adjacent areas. With the

(U) implementation of proper traffic controls, the increase in traffic during the construction period should not result in significant congestion.

(U) No long-term increase in employment at the base would result. No significant effects would result on traffic congestion or transportation systems.

4.1.16.2 Mitigation and Required Permits/Approvals (U)

(U) The Navy would establish procedures for construction traffic entering the base and to establish safety precautions (e.g., signs, flagmen) to ensure the continued safety of base roads during the construction periods for the projects.

4.1.17 Cumulative Impacts (U)

(U) Cumulative impacts are those changes to the physical, biological, and socioeconomic environments, which would result from the effects of proposed actions when added to other past, ongoing, and reasonably foreseeable actions, regardless of what agency of government or person undertakes such other actions.

(U) Previous development at NBK at Bangor was analyzed in the Environmental Impact Statement and Supplements to that document, which was prepared when the ballistic missile submarine support portion of the base was constructed (Department of the Navy, 1974; 1978; 1989). Considerable effort was made during all previous development at NBK at Bangor to limit the effects of development on the environment.

(U) The July 1974 Final Environmental Impact Statement (FEIS) addressed the potential environmental effects of developing a ballistic missile submarine support base at Bangor, Washington. Although numerous actions were planned to mitigate harmful effects on the environment from constructing and operating the base, a number of unavoidable adverse impacts were identified in the FEIS. These impacts included additional drawdown of the water table, the loss of hundreds of acres of vegetation from clearing, and reduction of flora and faunal habitat due to land clearing.

(U) The upgrade program for the Trident D-5 entailed construction projects similar to the proposed projects in that both actions involve additions or modifications to existing facilities or new construction on previously developed sites. The EA for the Trident D-5 Facilities Upgrade Program included numerous measures to minimize impacts to natural resources including the creation of permanent stormwater detention/sedimentation ponds and mitigating the loss of 57 acres of forest by replanting an equal amount of previously cleared land to offset the loss of wildlife habitat values. It was determined implementation of the D-5 upgrade would cause minor adverse disturbance to the physical and natural resources on NBK at Bangor.

(U) The currently proposed Projects 1 and 2 would be constructed on sites addressed in the Upgrade EA. Environmental effects from the proposed projects analyzed in this EA would include:

- (U) Soil disturbance over an area of up to 81 acres, and a resulting potential for soil erosion and sedimentation,
- (U) The excavation and placement as fill of about 910,000 cu yd of soil (obtained through the use of soil excavated at project sites and the development of on-base borrow area[s]) at the LA,
- (U) Creation of about 15 acres of impervious surfaces within a 2,500-acre watershed at NBK at Bangor, and
- (U) The clearing of up to 16 acres of vegetation for the construction of the LAPSC and Borrow Area A.

(U) The potential environmental effects from the proposed actions would be reduced to insignificant levels through application of measures to mitigate impacts outlined in this document. The effects of these projects are similar in nature, but much smaller in magnitude, to the effects of the initial submarine base construction. The effects of the initial base construction were addressed in the July 1974 Environmental Impact Statement. The cumulative impacts of proposed Projects 1 and 2, when added to the previous base development, are not expected to be significant.

(U) Future development at NBK at Bangor would be consistent with the base Master Plan, which designates appropriate areas for various land uses. Foreseeable future development projects at NBK at Bangor include the following:

- (U) Security Force Facility (P-971)—SSP would construct a roughly 12,100 sq ft building located east of the Marginal Wharf at the waterfront area to house a security force. The building addition would be constructed in a previously disturbed area. Soil disturbance and new impervious surface would be less than two acres (FY 2005).
- (U) Reaction Force Auxiliary Support Complex (P-980)—SSP would construct a 32,668 sq ft facility to house a security force. The project would be constructed on a site near the LA that is currently wooded. Impacts from the project would include removal of trees and soil disturbance over an area of less than four acres. Less than two acres of impervious surface would be created (FY 2007).
- (U) Armored Vehicle Support Facility (P-982)—SSP would construct an 8,170 sq ft facility for maintenance and repair of armored vehicles. The building would be constructed in a previously developed industrial area, with no removal of vegetation. The area of soil disturbance and new impervious surface would be less than an acre (FY 2008).
- (U) Enclosed Motor Transfer Facility (P-964)—SSP would construct an 1,830 sq ft addition and renovate/alter 8,070 sq ft of the existing motor transfer facility in the LA. Because this project modifies an existing building in a developed area, soil disturbance would be minimal and no impervious area would be created (FY 2006)

- (U) Equipment Maintenance Building Addition (P-903)—SSP would construct a 6,964 sq ft two-story addition to the existing building located at the Strategic Weapons Facility, Pacific (SWFPAC) Production Area (FY 2009). Because this project modifies an existing building in a developed area, soil disturbance and creation of impervious area would be minimal (FY 2009).
- (U) Missile Assembly Building (P-978)—SSP would construct a new 28,686 sq ft building in the LA. The building would be constructed in a developed industrial area. The area of soil disturbed and impervious surface created would be less than two acres (FY 2008).
- (U) Missile Haul Route Clearing—SSP would clear trees and undergrowth from 43 acres and thin trees and clear undergrowth over an 183 additional acres (FY 2006).
- (U) Missile Motor Inspection Building (P-986)—SSP would construct a 23,928 sq ft building of multi height configuration inside the LA. The building would be constructed in a developed industrial area. The area of soil disturbed and impervious surface created would be less than two acres (FY 2008).
- (U) Waterfront Security Enclave (P-977)—SSP would construct facilities to create two waterfront security enclave segments that would enclose the explosives handling wharf (EHW) and the Marginal and Delta Wharves, respectively. The new facilities would include 8,000 linear ft of double fencing and associated instruments, lights, and patrol roads; an 8,503 sq ft security force facility near the EHW; and a 10,495 sq ft Operations Storage Building. The existing Operations Storage Building is in the proposed route of the fencing and would be demolished. This project would result in removal of trees from 14 acres and soil disturbance over 22 acres. Less than four acres of impervious surface would be created. Four stream crossings would be constructed and 0.14 acre of wetlands would be filled. The enclave segment fences would create a barrier to wildlife movement (FY 2006).
- (U) Limited Area Emergency Generator System (P-987)—SSP would construct a new emergency generator facility and electrical distribution for emergency backup power supply. Soil disturbance, removal of vegetation and creation of impervious surface would be less than an acre (FY 2009).
- (U) Land-Water Interfaces—SSP would construct two land-water interfaces, one each at the southernmost and northernmost enclave termination points of the two enclaves. These in-water structures would be evaluated for effects on marine life, including threatened salmon species, and essential fish habitat, both during construction and after the structures become operational. A Section 10 permit from the U.S. Army Corps of Engineers (USACE) would be required (FY 2009).

(U) Because of the nature of concept development and funding for security projects in the post-September 11, 2001 period, plans for security projects are dynamic. Though the projects discussed above represent the best information available at this time, the list of planned projects is subject to change. Continuing NEPA analysis and documentation will be provided as the security program is developed and implemented. For projects that would require removal of significant amounts of vegetation or excavation at previously undisturbed areas, the Navy would perform biological and/or archaeological surveys as required. All projects would undergo appropriate environmental review as required by OPNAVINST 5090.1B.

(U) For the future projects described above, commonality of effects exists with the proposed actions evaluated in this environmental assessment in the following areas:

- (U) Soil disturbance—81 acres of soil would be disturbed by the proposed actions. The area disturbed by future projects would be approximately 77 acres, not including the 183 acres of trees to be thinned for the missile haul route.
- (U) Creation of additional impervious surfaces—15 acres of additional impervious surfaces would be created by the proposed actions. The future projects would create less than 13 acres of impervious surfaces for which stormwater runoff treatment and disposal would be required.
- (U) Generation of noise and dust during construction activities—both the proposed actions and the future actions would result in noise and dust during construction. Acres of soil disturbed (for proposed actions compared to future actions) provides a comparison of the relative magnitude of construction activity for the proposed actions and future actions. In addition, 910,000 cu yd of fill will be excavated and placed for the proposed actions. Though an estimate of fill material required for future actions has not been made, the amount will be nominal.

(U) Based on these considerations, the addition of the impacts of the proposed actions to the impacts expected from foreseeable future actions would not result in significant environmental impacts. Soil disturbance, the creation of impervious surfaces and generation of noise and dust for the proposed actions would be comparable to that projected for identified future actions, and the cumulative effect of adding proposed and future actions would not be significant. Future actions would also have in-water components that must be evaluated, but the proposed actions covered by this environmental assessment would include no construction in wetlands or Hood Canal.

(U) Cumulative impacts on environmental resources from the proposed actions when added to other past, ongoing, and reasonably foreseeable actions at NBK at Bangor are not expected to be significant.

4.2 No-Action Alternative (U)

(U) The no-action alternative would not construct new hardened missile motor magazines and a new LAPSC and would not increase weapons security. There would be no impact to land use, geology and soils, water quality, wetlands, biological resources, endangered and threatened species or any other aspect of the environment.

4.3 Conclusions (U)

4.3.1 Required Permits/Approvals from Agencies External to the Navy (U)

(U) The following permits/approvals would be required from regulatory agencies external to the Navy to implement the proposed actions:

- (U) Notification to Region 10 of the EPA that discharge of stormwater from large construction areas would occur in conformance with General Permit requirements.
- (U) The filing of a Notice of Construction and receipt of an Order of Approval from the Puget Sound Clear Air Agency for the temporary concrete batch plant.

4.3.2 Findings (U)

(U) The proposed actions would not result in significant impacts on the environment. Potential environmental efforts would be prevented or minimized through the application of measures outlined in this document. Preparation of an EIS is not required under Navy regulations at Chapter 2, Section 2-4.4 of OPNAVINST 5090.1B.

5 LIST OF PREPARERS
(Unclassified in Entirety)

5.1 Project Management Team

5.1.1 SSP

- Fred Chamberlain, B.S., physics, Le Moyne College, Syracuse; M.S., management information systems (MIS), University of Southern California, Los Angeles, California. Environmental and Safety Programs Manager, Navy Strategic Systems Programs; 20 years of experience in Submarine Launched Ballistic Missile Systems. Mr. Chamberlain is the Command point of contact for environmental and natural resources issues. Mr. Chamberlain has responsibility for the development of this EA.
- Jim Irwin, B.S., chemical engineering, Navy Strategic Systems Program; 15 years experience in Submarine Launched Ballistic Missile Systems. Mr. Irwin is the security office point of contact at SSP Headquarters for the development of this EA.

5.1.2 BAE SYSTEMS

- Jerry L. Dause, B.S.C.E. and M.S.C.E., University of Kentucky, Lexington; M.S.P.M., Florida Institute of Technology, Melbourne; Registered Professional Engineer, State of Georgia; 35 years of experience in environmental engineering and environmental management. Mr. Dause served as technical project leader and reviewer for this EA.
- Vasilios Koutris, B.S.E.E., University of Maryland; M.S.I.E., Virginia Polytechnic Institute; M.B.A. (operations research), University of Baltimore. Engineering Group Manager; more than 40 years of experience in facilities engineering and related NEPA documentation in support of the Navy's Ballistic Missile Programs, including TRIDENT. Mr. Koutris directed the EA support team and provided liaison with the Navy.
- Robert Martinazzi II, B.S., aerospace engineering, U.S. Naval Academy, Annapolis, Maryland; M.S., civil engineering and M.E., environmental engineering, University of Maryland, College Park; Registered Professional Engineer, State of Maryland; 12 years of experience in construction management and environmental management. Mr. Martinazzi served as technical reviewer for this EA.
- John C. Milkintas, B.S.C.E. and M.S.C.E., University of Illinois at Champaign, Illinois; Registered Professional Engineer, State of Illinois; retired Commander of Civil Engineers, U.S. Navy; 40 years of experience in planning, programming, and constructing naval facilities and ensuring these facilities comply with the applicable environmental regulations. Mr. Milkintas served as technical reviewer for this EA.

- Anthony M. Olekson, B.S., civil engineering, North Carolina State University; Certified Engineer In Training, North Carolina Board of Examiners for Engineers and Surveyors. Mr. Olekson provided technical review of this EA.
- Bruce G. Shope, B.S., civil engineering, University of New Haven, Connecticut; M.S., construction management, University of Maryland, College Park; Professional Engineer, U.S. Trust Territory of Guam; 30 years of experience in civil engineering, public works management, construction management, and environmental management. Mr. Shope served as technical reviewer for this EA.
- Gary T. Smith, B.S., United States Naval Academy; M.P.A., George Washington University; 44 years of experience in naval matters including environmental documentation. Mr. Smith served as technical reviewer for this EA.
- Lisa Kimbro Worrall, B.A. environmental studies and political science, George Washington University; M.B.A., Marymount College of Virginia; 25 years of experience in providing management and technical expertise in the environmental and defense areas. Ms. Worrall served as technical analyst and writer for this EA.

5.2 SWFPAC

- Theo Cragg, M.B.A., industrial engineering, University of Washington; B.S., Ohio State University; 16 years of experience in facilities/project management.
- Charles H. Greely, B.S., M.S., mechanical engineering, University of Washington; licensed mechanical engineer, State of Washington; licensed nuclear engineer, State of California; 30 years of facility project experience including coordinating environmental approval requirements.
- Ian Louie, B.S., industrial engineering, University of Washington; 2 years of experience in facilities/project management.

5.3 SRI International

- Ole Barré, B.A., environmental studies with a concentration in natural sciences, University of California at Santa Barbara; 5 years experience in environmental regulatory compliance. Mr. Barré conducted research for this EA.
- Bernice Bumbaca, in process of obtaining A.S., physical science, College of San Mateo, California; 11 years of experience in environmental research and analyses. Ms. Bumbaca conducted research on floodplains, wetlands, and wild and scenic rivers for this EA.
- Teresa Cochran, A.A., individual studies, Foothill College, Los Altos Hills, California; 13 years of experience in report preparation and coordination. Ms. Cochran served as editor and word processor for this EA.

- Jeffrey L. Coron, B.S., geology, Mary Washington College, Fredericksburg, Virginia; Registered Professional Geologist, Pennsylvania; 15 years of experience in environmental site assessments, contaminant characterization and remediation studies, remediation services, and asbestos inspections and management plans. Mr. Coron conducted research on geology and soils and water quality for this EA.
- Roshni Easley, A.A., general studies-social science, Foothill College, Los Altos Hills, California; 5 years of experience in report preparation and coordination. Ms. Easley served as report coordinator for this EA.
- Linda Hawke-Gerrans, A.A., technical illustration, College of San Mateo, California; 30 years of experience in technical illustration and 11 years of experience in geographic information systems. Ms. Hawke-Gerrans served as technical illustrator and geographic analyst for this EA.
- Reema Mahamood, B.A., classical language and literature, Santa Clara University, California; 20 years of experience in technical writing and editing and 7 years of environmental impact assessment. Ms. Mahamood served as task leader for this EA.
- James Manitakos, Jr., J.D., law, Peninsula University College of Law, Mountain View, California; M.A., geology, University of California at Berkeley; B.A., geology and economics, Williams College, Williamstown, Massachusetts; certificate, hazardous materials management, University of California at Santa Cruz Extension; California Registered Environmental Assessor 1-07047; 20 years of experience in environmental impact assessment and project management. Mr. Manitakos served as project supervisor for this EA.
- Jean Stockett, M.A., classics, Stanford University, California; B.A., classical languages and literature, University of Washington; technical writing certificate, De Anza College, California; 15 years of experience in technical writing and editing. Ms. Stockett served as editor for this EA.
- Mark Stumbaugh, certificate, technical illustration, College of San Mateo, California; 28 years of experience in technical illustration. Mr. Stumbaugh served as technical illustrator for this EA.
- Cherry Zamora, B.A., geography with an emphasis in physical environmental change, University of California at Berkeley. Ms. Zamora conducted research for this EA.

6 REFERENCES
(Unclassified in Entirety)

Bolt, Beranek, and Newman. *Noise from Construction Equipment and Home Appliances,* U.S. Environmental Protection Agency (1971).

Chief of Naval Operations. *Threat Statement for U.S. Government Nuclear/Chemical Weapons Programs and Facilities,* CNO Letter 8126, Serial No. 9N3185536010 (6 October 1998).

Department of Community Development, Port Orchard, Washington. *Shoreline Management Master Program,* Kitsap County (8 February 1999).

Department of Defense. *Nuclear Weapon Security Policy,* DoD S-5210.41-M, SECRET/NOFORN (22 November 2004).

Department of the Navy. *Final Environmental Impact Statement, TRIDENT Support Site, Bangor, Washington,* Vols. I–V (July 1974).

Department of the Navy. *Supplement to Final Environmental Impact Statement, Naval Submarine Base, Bangor, Washington* (February 1977, revised April 1978).

Department of the Navy. *Environmental Assessment, TRIDENT D-5 Facilities, Upgrade Program, Naval Submarine Base, Bangor, Kitsap County, Washington* (August 1989).

Department of the Navy. *Environmental Assessment, Installation and Operation of Force Protection Barrier, Naval Submarine Base Bangor, Silverdale, Washington* (April 2002).

Department of the Navy. Office of the Chief of Naval Operations. *Navy Nuclear Weapons Security Policy,* OPNAVINST C-8126.1B, CONFIDENTIAL (14 November 2002).

Department of the Navy, Office of the Chief of Naval Operations. *Environmental and Natural Resources Program Manual,* OPNAVINST 5090.1B (1 November 1994, revised 4 June 2003).

Department of the Navy, Strategic Systems Program. *Strategic Weapon System Master Site Plan, Bangor, Washington* (4 January 2002).

Engineering Field Activity, Northwest. *Institutional Controls Management Plan, Naval Submarine Base Bangor, Silverdale, WA* (28 August 2001).

Environmental Protection Agency. *Currently Designated Nonattainment Areas for All Criteria Pollutants,* http://www.epa.gov/oar/oaqps/greenbk/ancl.html (23 June 2003).

Federal Emergency Management Agency. Flood Insurance Rate Map, *Kitsap County, Washington (Unincorporated Areas),* Community Panel Numbers 530092 0100 B and 530092 0185 B (15 May 1980).

Hart Crowser, Inc. *Geotechnical Engineering Study, MIB and RIB-2, Naval Submarine Base Bangor* (8 August 1989).

Holcomb, D., S. Altaway, R. Patterson, and D. Wessenberg. *Naval Submarine Base Kings Bay and Bangor Soil Evaluations,* Sandia National Laboratory (October 2003).

National Park Service. *Wild and Scenic Rivers by State*, http://www.nps.gov/rivers/wildriverslist.html (updated 15 April 2003).

NSB Bangor. *Draft Integrated Natural Resources Management Plan* (30 December 1999).

Pentec Environmental. *Marine and Terrestrial Resources, Proposed Security Force Facility and Enclave Fencing at Naval Submarine Base Bangor, Washington*, Review Draft (28 October 2003).

President. *Floodplain Management*, Executive Order 11988, 42 *Federal Register* 26951 (24 May 1977a).

President. *Protection of Wetlands*, Executive Order 11990, 42 *Federal Register* 26961 (24 May 1977b).

President. *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations*, Executive Order 12898, 59 *Federal Register* 7629 (11 February 1994).

President. *National Security Presidential Directive*, NSPD-28, SECRET, (20 June 2003).

Sailor, Johnson & Associates, Inc. *Noise Study Report, ASR-9 Antenna System, Omaha-Offutt, Nebraska and St. Louis, Missouri* (18 May 1990).

Sandia National Laboratory. *2002 Systems Effectiveness Assessment of the Physical Security Systems at Naval Submarine Base, Bangor*, SECRET/FRD (15 November 2002).

Systems Planning and Analysis, Inc. *Milcon Project Justifications*, Report Number SPA-02-00496 (25 June 2002).

U.S. Census Bureau. *Census 2000 Summary File 1 (SF 1) 100-Percent Data and Census 2000 Summary File 3 (ST 3)—Sample Data*, http://factfinder.census.gov/servlet/BasicFactsServlet (28 October 2002).

U.S. Geological Survey. *Lofall, Wash.*, 7.5 Minute Series (topographic) map (1953, photorevised 1968 and 1973).

U.S. Geological Survey. *Poulsbo, Wash.*, 7.5 Minute Series (topographic) map (1953, photorevised 1981).

U.S. Geological Survey. *The Mineral Industry of Washington*, http://minerals.er.usgs.gov/minerals/pubs/state/2001/wastmyb01.pdf (17 June 2003a).

U.S. Geological Survey. *Characterization of the Geohydrology, Ground-Water Flow System, and Ground-Water Quality of SUBASE Bangor, Kitsap County, Washington*, http://wa.water.usgs.gov/projects/summaries/summary.406.htm (19 June 2003b).

Washington State Department of Ecology. *Shoreline Management Act of 1971*, Chapter 90.58 RCW (1971).

Washington Department of Natural Resources. *Geology of Washington*, http://www.dnr.wa.gov/geology/ (17 June 2003).

APPENDIX A

ALTERNATIVES CONSIDERED FOR THE WEAPONS SECURITY ACTIONS ENVIRONMENTAL ASSESSMENT AT NBK AT BANGOR, SECRET/FRD

(This page is unclassified)

APPENDIX B

PURPOSE AND NEED DISCUSSION FOR THE WEAPONS SECURITY ACTIONS ENVIRONMENTAL ASSESSMENT AT NBK AT BANGOR, SECRET/FRD

(This page is unclassified)

APPENDIX C

FIGURES, UCNI
(This page is not designated UCNI)

APPENDIX C
TABLE OF CONTENTS
(This page is not designated UCNI)

APPENDIX D

(Unclassified in Entirety)
BACKGROUND MATERIALS

APPENDIX D
TABLE OF CONTENTS
(Unclassified in Entirety)

SRI INTERNATIONAL
333 Ravenswood Ave. G-226
Menlo Park, CA 94025-3493

ENGINEERING & SYSTEMS DIVISION
Envirotechnical Program

Telephone Conversation Record

Call Initiated By SRI ☒ **Client** ☐ **Date:** July 11, 2003

Person Contacted: Kelly Robinson **Title:** Manager of Land Use Permitting

Agency: Kitsap County Community Development Department

Phone No.: (360) 337-7181

Project : Weapons Security Actions at NSB Bangor, Washington

Re: Kitsap County Land Use Regulations

Result of discussion:

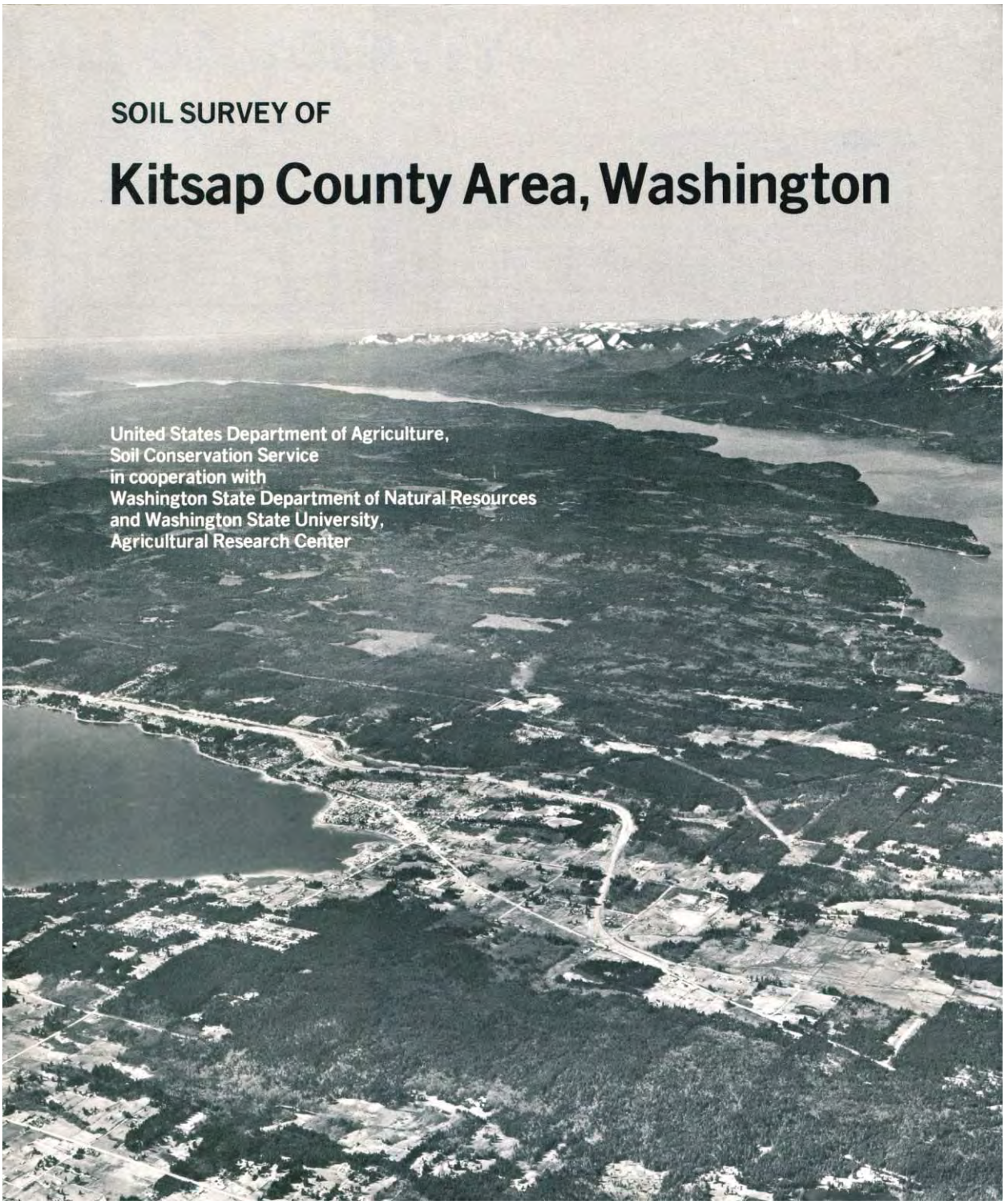
NSB Bangor is designated a military use in the Kitsap County land use map. NSB Bangor is exempt from Kitsap County regulations.

Recorded by: Reema Mahamood

cc: File

SOIL SURVEY OF

Kitsap County Area, Washington



United States Department of Agriculture,
Soil Conservation Service
in cooperation with
Washington State Department of Natural Resources
and Washington State University,
Agricultural Research Center

detailed soil map units

The map units on the detailed soil maps at the back of this survey represent the soils in the survey area. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability and potential of a soil for specific uses. They also can be used to plan the management needed for those uses. More information on each map unit, or soil, is given under "Use and management of the soils."

Each map unit on the detailed soil maps represents an area on the landscape and consists of one or more soils for which the unit is named.

A symbol identifying the soil precedes the map unit name in the soil descriptions. Each description includes general facts about the soil and gives the principal hazards and limitations to be considered in planning for specific uses.

Much of the Kitsap County Area is used as woodland, and Douglas-fir is the dominant species. Most map unit descriptions include a 50-year site index and MAI (mean annual increment) (*5, 3*) and a 100-year site index and CMAI (culmination of mean annual increment) (*6*) for Douglas-fir. Some map units list a 50-year site index for red alder (*18*).

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying material, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying material. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Kitsap silt loam, 2 to 8 percent slopes, is one of several phases in the Kitsap series.

A *soil complex* consists of two or more soils in such an intricate pattern or in such small areas that they cannot be shown separately on the soil maps. The pattern and proportion of the soils are somewhat similar in all areas. Ragnar-Poulsbo complex, 15 to 30 percent slopes, is an example.

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such differences could significantly affect use and management of the soils in the map unit. The included soils are identified in each map unit description. Some small areas of strongly contrasting soils are identified by a special symbol on the soil maps.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Beaches is an example. Miscellaneous areas are shown on the soil maps. Some that are too small to be shown are identified by a special symbol on the soil maps.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of tables") give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

1—Alderwood very gravelly sandy loam, 0 to 6 percent slopes. This moderately deep, moderately well drained soil is on uplands. It formed in glacial till. Individual areas of this map unit are long and narrow and oriented north to south. Areas average about 100 acres. Native vegetation is mainly conifers and hardwoods.

The elevation ranges from 50 to 550 feet. The average annual precipitation is 40 to 55 inches, the mean annual air temperature is about 50 degrees F, and the average frost-free season is about 180 days.

Typically, the surface of this soil is covered by a thin mat of undecomposed needles and wood fragments. The subsurface layer is brown very gravelly sandy loam 1/2 inch thick. The subsoil is brown very gravelly loam about 21 inches thick. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam that is weakly-silica-cemented in the upper part. Depth to the silica-cemented hardpan ranges from 20 to 40 inches.

Included with this soil in mapping, and making up about 10 percent of the map unit, are McKenna soils in depressions, Norma and Shalcar soils in drainageways and troughs, and Harstine and Kapowsin soils in concave pockets. Also included are small areas of soils that have a stony and bouldery surface layer.

Permeability of this Alderwood soil is moderately rapid above the hardpan and very slow in the pan. The available water capacity is low. The effective rooting depth ranges from 20 to 40 inches. Matting of roots directly above the hardpan is common. Runoff is slow, and the hazard of water erosion is slight. This Alderwood

soil has a perched water table at a depth of 2.5 to 3 feet for short periods during the rainy season in winter and spring.

This Alderwood soil is used mainly for woodland. Much of the area is used for Christmas trees. Some areas are used for crops.

This soil is suited to crops if practices that maintain soil tilth and fertility are used. The weakly cemented hardpan limits the use of this soil for deep-rooted crops. Proper grazing practices, weed control, and supplemental irrigation increase forage yields.

The organic matter content of the soil can be maintained by using all crop residue, plowing under cover crops, and using a suitable cropping system. A suitable cropping system is a pasture of orchardgrass and white clover for 5 or 6 years followed by oats for 1 year or strawberries for 3 years. Most crops respond to nitrogen, phosphorus, and potassium. Legumes benefit from applications of agricultural lime.

This soil is suited to Douglas-fir, western hemlock, western redcedar, and red alder. Based on a 100-year site curve, the average site index for Douglas-fir is 135 with CMAI of 138 cubic feet per acre. The site index based on a 50-year site curve is 104 with MAI of 125 cubic feet per acre at 50 years.

During periods of heavy rainfall, a perched water table is at a shallow depth for a short time. Trees are subject to windthrow when winds are strong and the soil is saturated. Rooting depth is limited by the weakly cemented pan and very compact substratum.

This soil is suited to urban development if community sewage systems are built. The main limitations are depth to the cemented hardpan and the seasonal perched water table. In areas of moderate or high population density, onsite sewage disposal systems often fail or do not function properly during periods of high rainfall because of these limitations. Excavation involves ripping the weakly cemented hardpan. Topsoil needs to be stockpiled and subsequently used to cover the excavated material. This soil has adequate strength to support a heavy load.

This Alderwood soil is in capability subclass IVw.

2—Alderwood very gravelly sandy loam, 6 to 15 percent slopes. This moderately deep, moderately well drained soil is on broad uplands. It formed in glacial till. Individual areas of this map unit are long and narrow and oriented north to south. Areas average about 125 acres. The vegetation is conifers and hardwoods.

The elevation ranges from 50 to 550 feet. The average annual precipitation is 40 to 55 inches, the mean annual air temperature is about 50 degrees F, and the average frost-free season is about 180 days.

Typically, the surface of this soil is covered by a mat of undecomposed needles and wood fragments. The subsurface layer is brown very gravelly sandy loam 1/2 inch thick. The subsoil is brown very gravelly loam about 21 inches thick. The substratum to a depth of 60 inches or more is grayish brown gravelly sandy loam that is weakly-silica-cemented in the upper part. Depth to the silica-cemented hardpan ranges from 20 to 40 inches.

Included with this soil in mapping, and making up about 8 percent of the map unit, are Indianola and Neilton soils on side slopes. Also included, and making up about 6 percent of the map unit, are Kapowsin and Harstine soils, and areas of Alderwood very gravelly sandy loam that have slopes of less than 6 percent.

Permeability of this Alderwood soil is moderately rapid above the hardpan and very slow in the pan. The available water capacity is low. The effective rooting depth ranges from 20 to 40 inches. Runoff is slow, and the hazard of water erosion is slight. This soil has a perched water table at a depth of 2.5 to 3 feet during the rainy season in winter and spring. Water flows laterally along the top of the cemented layer and seeps at the bottom of slopes.

This Alderwood soil is used mainly for woodland (fig. 1). Much of the area is used for Christmas trees. Some areas are in crops.

This soil is suited to crops if practices that reduce erosion and maintain tilth and fertility are used. The weakly cemented hardpan limits use of this soil for deep-rooted crops. Proper grazing practices, weed control, and supplemental irrigation increase forage yields.

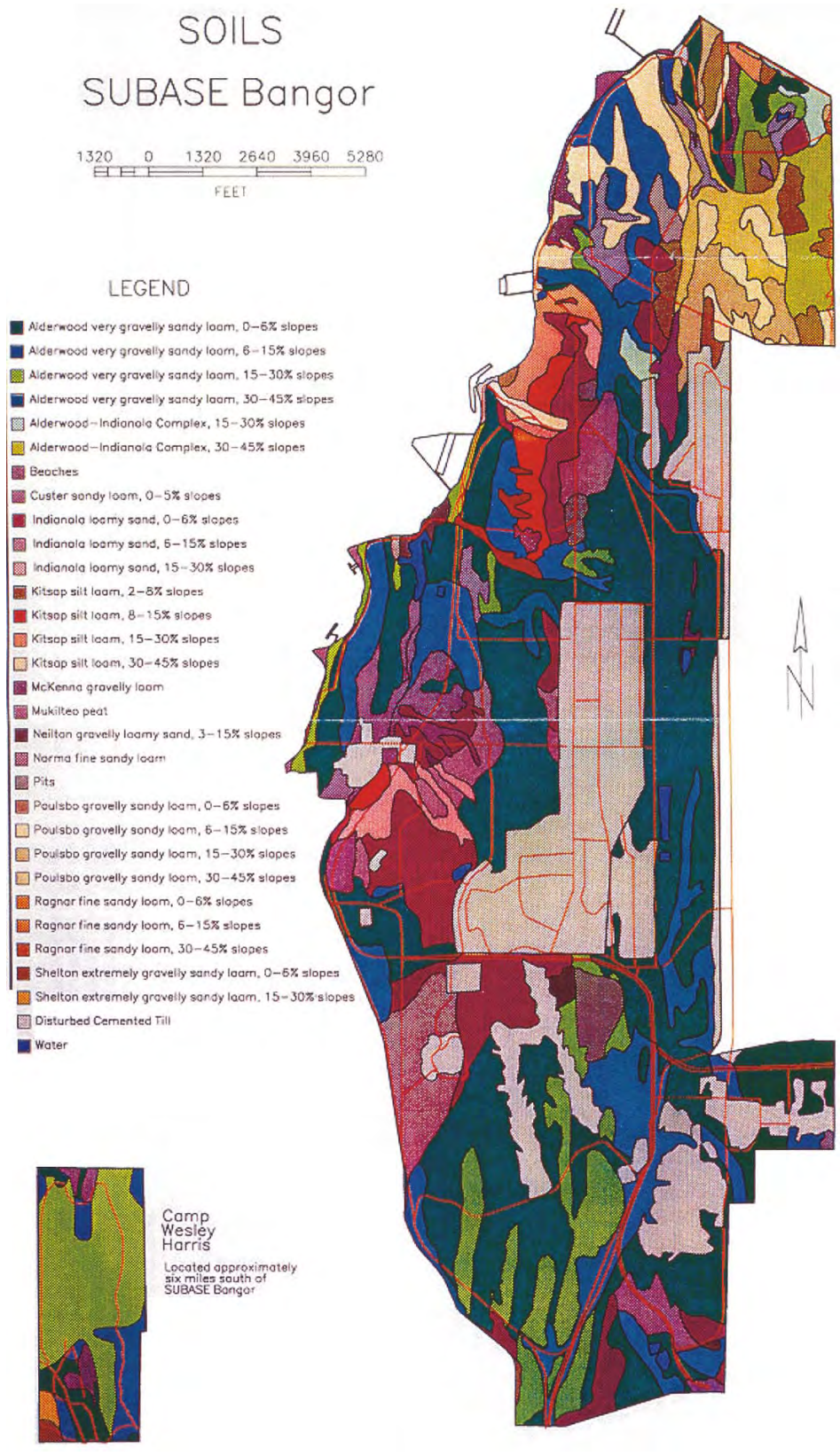
The organic matter content of the soil can be maintained by using all crop residue, plowing under cover crops, and using a suitable cropping system. A suitable cropping system is 5 or 6 years of orchardgrass and white clover for hay or pasture followed by 1 year of oats or 3 years of strawberries. Most crops respond to nitrogen, phosphorus, and potassium.

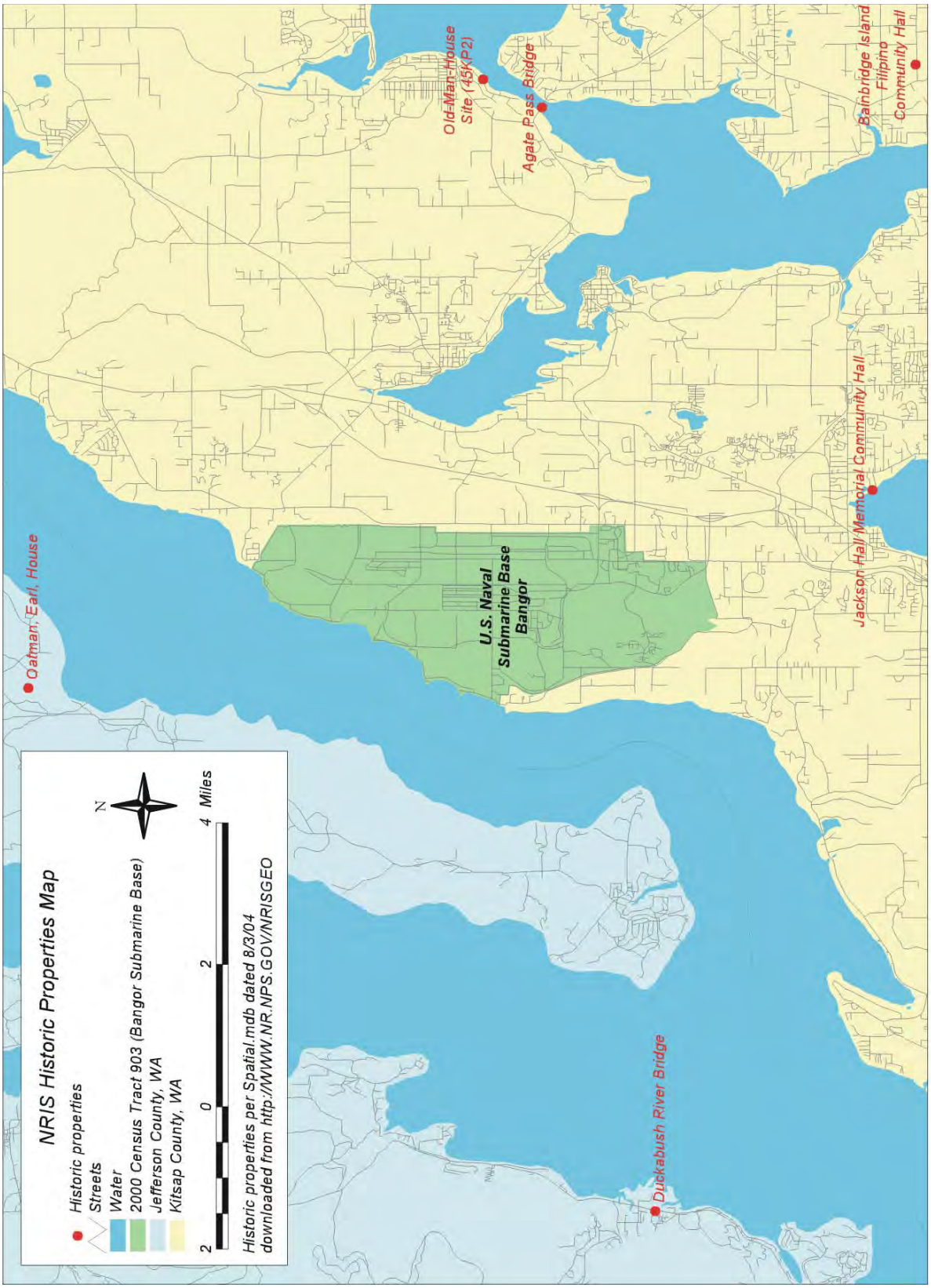
This soil is suited to Douglas-fir, western hemlock, western redcedar, and red alder. Based on a 100-year site curve, the average site index for Douglas-fir is 135 with CMAI of 138 cubic feet per acre. The site index based on a 50-year site curve is 104 with MAI of 125 cubic feet per acre at 50 years.

Rooting depth is limited by the weakly cemented pan and compact substratum. Trees are subject to windthrow when winds are strong and the soil is saturated.

This soil is suited to urban development if community sewage systems are built. The main limitations are slope, depth to the cemented hardpan, and the seasonal perched water table. In areas of moderate or high population density, onsite sewage disposal systems often fail or do not function properly during periods of high rainfall because of these limitations. Excavation involves ripping the weakly cemented hardpan. Topsoil needs to be stockpiled and subsequently used to cover excavated material. This soil has adequate strength to support a heavy load.

This Alderwood soil is in capability subclass IVe.


SOILS
SUBASE Bangor
1320 0 1320 2640 3960 5280
FEET
LEGEND
Alderwood very gravelly sandy loam, 0–6% slopes
Alderwood very gravelly sandy loam, 6–15% slopes
Alderwood very gravelly sandy loam, 15–30% slopes
Alderwood very gravelly sandy loam, 30–45% slopes
Alderwood–Indianola Complex, 15–30% slopes
Alderwood–Indianola Complex, 30–45% slopes
Beaches
Custer sandy loam, 0–5% slopes
Indianola loamy sand, 0–6% slopes
Indianola loamy sand, 6–15% slopes
Indianola loamy sand, 15–30% slopes
Kitsap silt loam, 2–8% slopes
Kitsap silt loam, 8–15% slopes
Kitsap silt loam, 15–30% slopes
Kitsap silt loam, 30–45% slopes
McKenna gravelly loam
Mukilteo peat
Neiltan gravelly loamy sand, 3–15% slopes
Norma fine sandy loam
Pits
Poulsbo gravelly sandy loam, 0–6% slopes
Poulsbo gravelly sandy loam, 6–15% slopes
Poulsbo gravelly sandy loam, 15–30% slopes
Poulsbo gravelly sandy loam, 30–45% slopes
Ragnar fine sandy loam, 0–6% slopes
Ragnar fine sandy loam, 6–15% slopes
Ragnar fine sandy loam, 30–45% slopes
Shelton extremely gravelly sandy loam, 0–6% slopes
Shelton extremely gravelly sandy loam, 15–30% slopes
Disturbed Cemented Till
Water
N
Camp Wesley Harris
Located approximately six miles south of SUBASE Bangor



NRIS HISTORIC PROPERTIES MAP — WEAPONS SECURITY ACTIONS AT NAVAL SUBMARINE BASE (NSB) BANGOR, WASHINGTON

SRI INTERNATIONAL
333 Ravenswood Ave. G-226
Menlo Park, CA 94025-3493

ENGINEERING & SYSTEMS DIVISION
Envirotechnical Program

Telephone Conversation Record

Call Initiated By SRI ☒ **Date:** 5-18-04

Person Contacted: **Steve Van Slyke** **Title:** Supervising Engineer

Agency: **Puget Sound Clean Air Agency**

Phone No.: (206) 689-4052

Project : **US Navy—Bangor**

Re: **Concrete Batch Plant Permitting**

Result of discussion: Batch plants are permitted to control particulate matter generated during operation, and also require the use of best available control technology (BACT), as required by Washington state Statute RCW 70.94.152.

There are two options that do NOT require a new permit from the Puget Sound Clean Air Agency:

1) If the *rated capacity* of the batch plant is below 15 cubic yards per hour, then the batch plant qualifies for an exemption (Agency Reg 1, §6.03.c.115) from the agency. A record log documenting compliance with the conditions of the exemption (i.e. not exceeding production capacity) is required.

2) If a previously permitted portable batch plant existing on site is used, than all that is required is a $100 notification fee sent to the agency (Agency Reg 1, §6.03.d).

Recorded by:
Ole Barré

APPENDIX E

(Unclassified in Entirety)
SCOPING LETTER RESPONSES

APPENDIX E
TABLE OF CONTENTS
(Unclassified in Entirety)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Western Washington Fish and Wildlife Office
510 Desmond Drive SE, Suite 102
Lacey, Washington 98503
Phone: (360) 753-9440 Fax: (360) 534-9331

JUN 2 4 2003

Dear Species List Requester:

We (U.S. Fish and Wildlife Service) are providing the information you requested to assist your determination of possible impacts of a proposed project to species of Federal concern. Attachment A includes the listed threatened and endangered species, species proposed for listing, candidate species, and/or species of concern that may be within the area of your proposed project.

Any Federal agency, currently or in the future, that provides funding, permitting, licensing, or other authorization for this project must assure that its responsibilities under section 7(a)(2) of the Endangered Species Act of 1973, as amended (Act), are met. Attachment B outlines the responsibilities of Federal agencies for consulting or conferencing with us.

If both listed and proposed species occur in the vicinity of a project that meets the requirements of a major Federal action (i.e., "major construction activity"), impacts to both listed and proposed species must be considered in a biological assessment (BA) (section 7(c); see Attachment B). Although the Federal agency is not required, under section 7(c), to address impacts to proposed species if listed species are not known to occur in the project area, it may be in the Federal agency's best interest to address impacts to proposed species. The listing process may be completed within a year, and information gathered on a proposed species could be used to address consultation needs should the species be listed. However, if the proposed action is likely to jeopardize the continued existence of a proposed species, or result in the destruction or adverse modification of proposed critical habitat, a formal conference with us is required by the Act (section 7(a)(4)). The results of the BA will determine if conferencing is required.

The Federal agency is responsible for making a determination of the effects of the project on listed species and/or critical habitat. For a Federal agency determination that a listed species or critical habitat is likely to be affected (adversely or beneficially) by the project, you should request section 7 consultation through this office. For a "not likely to adversely affect" determination, you should request our concurrence through the informal consultation process.

Candidate species and species of concern are those species whose conservation status is of concern to us, but for which additional information is needed. Candidate species are included as an advance notice to Federal agencies of species that may be proposed and listed in the future. Conservation measures for candidate species and species of concern are voluntary but recommended. Protection provided to these species now may preclude possible listing in the future.

For other federally listed species that may occur in the vicinity of your project, contact the National Marine Fisheries Service (NOAA Fisheries) at (360) 753-9530 to request a list of species under their jurisdiction. For wetland permit requirements, contact the Seattle District of the U.S. Army Corps of Engineers for Federal permit requirements and the Washington State Department of Ecology for State permit requirements.

Thank you for your assistance in protecting listed threatened and endangered species and other species of Federal concern. If you have additional questions, please contact Tami Black at (360) 753-4322 or Yvonne Dettlaff at (360) 753-9582.

Sincerely,

for Ken S. Berg, Manager
Western Washington Fish and Wildlife Office

Enclosure(s)

ATTACHMENT A **June 3, 2003**

LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES, CRITICAL HABITAT, CANDIDATE SPECIES, AND SPECIES OF CONCERN THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED NAVAL SUBMARINE BASE WEAPONS SECURITY IMPROVEMENTS PROJECT IN KITSAP COUNTY, WASHINGTON

(T26N R1E S7-8,17-20,29-30)

FWS REF: 1-3-03-SP-1381

LISTED

There is one bald eagle (*Haliaeetus leucocephalus*) nesting territory located in the vicinity of the project at T26N R1E S5. Nesting activities occur from January 1 through August 15.

Wintering bald eagles may occur in the vicinity of the project. Wintering activities occur from October 31 through March 31.

Bull trout (*Salvelinus confluentus*) may occur in ocean waters adjacent to the project.

Foraging marbled murrelets (*Brachyramphus marmoratus*) may occur in the ocean waters adjacent to your project.

Major concerns that should be addressed in your biological assessment of the project impacts to listed species include:

1. Level of use of the project area by listed species;

2. Effect of the project on listed species' primary food stocks, prey species, and foraging areas in all areas influenced by the project; and

3. Impacts from project construction (i.e., habitat loss, increased noise levels, increased human activity) that may result in disturbance to listed species and/or their avoidance of the project area.

PROPOSED

None

CANDIDATE

None

CRITICAL HABITAT

None

SPECIES OF CONCERN

The following species of concern have been documented in the county where the project is located. These species or their habitat could be located on or near the project site. Species in **bold** were specific occurrences located on the database within a 1-mile radius of the project site.

Long-eared myotis (*Myotis evotis*)
Long-legged myotis (*Myotis volans*)
Northern goshawk (*Accipiter gentilis*)
Northern sea otter (*Enhydra lutris kenyoni*)
Northwestern pond turtle (*Emys* (= *Clemmys*) *marmorata marmorata*)
Pacific lamprey (*Lampetra tridentata*)
Pacific Townsend's big-eared bat (*Corynorhinus townsendii townsendii*)
Peregrine falcon (*Falco peregrinus*)
River lamprey (*Lampetra ayresi*)
Tailed frog (*Ascaphus truei*)
Western toad (*Bufo boreas*)
Abronia umbellata ssp. *acutalata* (rose-purple sand-verbena)

ATTACHMENT B

FEDERAL AGENCIES' RESPONSIBILITIES UNDER SECTIONS 7(a) AND 7(c) OF THE ENDANGERED SPECIES ACT OF 1973, AS AMENDED

SECTION 7(a) - Consultation/Conference

Requires:

1. Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;

2. Consultation with the U.S. Fish and Wildlife Service (FWS) when a Federal action may affect a listed endangered or threatened species to ensure that any action authorized, funded, or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The process is initiated by the Federal agency after it has determined if its action may affect (adversely or beneficially) a listed species; and

3. Conference with the FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or an adverse modification of proposed critical habitat.

SECTION 7(c) - Biological Assessment for Construction Projects *

Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for construction projects only. The purpose of the BA is to identify any proposed and/or listed species that is/are likely to be affected by a construction project. The process is initiated by a Federal agency in requesting a list of proposed and listed threatened and endangered species (list attached). The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the species list, please verify the accuracy of the list with the Service. No irreversible commitment of resources is to be made during the BA process which would result in violation of the requirements under Section 7(a) of the Act. Planning, design, and administrative actions may be taken; however, no construction may begin.

To complete the BA, your agency or its designee should (1) conduct an onsite inspection of the area to be affected by the proposal, which may include a detailed survey of the area to determine if the species is present and whether suitable habitat exists for either expanding the existing population or potential reintroduction of the species; (2) review literature and scientific data to determine species distribution, habitat needs, and other biological requirements; (3) interview experts including those within the FWS, National Marine Fisheries Service, state conservation department, universities, and others who may have data not yet published in scientific literature; (4) review and analyze the effects of the proposal on the species in terms of individuals and populations, including consideration of cumulative effects of the proposal on the species and its habitat; (5) analyze alternative actions that may provide conservation measures; and (6) prepare a report documenting the results, including a discussion of study methods used, any problems encountered, and other relevant information. Upon completion, the report should be forwarded to our Endangered Species Division, 510 Desmond Drive SE, Suite 102, Lacey, WA 98503-1273.

---

* "Construction project" means any major Federal action which significantly affects the quality of the human environment (requiring an EIS), designed primarily to result in the building or erection of human-made structures such as dams, buildings, roads, pipelines, channels, and the like. This includes Federal action such as permits, grants, licenses, or other forms of Federal authorization or approval which may result in construction.

STATE OF WASHINGTON
OFFICE OF COMMUNITY DEVELOPMENT
Office of Archaeology and Historic Preservation
1063 S. Capitol Way, Suite 106 • PO Box 48343 • Olympia, Washington 98504-8343 • (360) 586-3065
Fax Number (360) 586-3067 • http://www.oahp.wa.gov

June 17, 2003

Ms. Reema Mahamood
SRI International
333 Ravenswood Avenue
Menlo Park, California 94025

Log No.: 061703-07-USN
Re: Weapons Security Improvements at Bangor

Dear Ms. Mahamood:

We have reviewed the materials forwarded to our office for the proposed Weapons Security Improvements at Naval Submarine Base Bangor in Kitsap County. Thank you for your description of the area of potential effect. We concur with your definition of the area of potential effect. We look forward to the results of your consultation with the concerned tribes and receiving the survey report.

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer for compliance with Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800. We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

Should additional information become available, our assessment may be revised. In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity should be discontinued, the area secured, and the tribe's cultural committee and this office notified. Thank you for the opportunity to comment.

Sincerely,

Robert G. Whitlam, Ph.D.
State Archaeologist
(360) 586-3080
email: robw@cted.wa.gov

SRI INTERNATIONAL
333 Ravenswood Ave. G-226
Menlo Park, CA 94025-3493

ENGINEERING & SYSTEMS DIVISION
Envirotechnical Program

Telephone Conversation Record

Call Initiated By SRI ☐ Client ☒ **Date: May 30, 2003**

Person Contacted: Matt Longenbaugh **Title:**

Agency: National Marine Fisheries Service

Phone No.: (360) 753-7761

Project : Weapons Security Actions at NSB Bangor, Washington

Re: NEPA Comments

Result of discussion:

The NMFS has reviewed our scoping letter and based on the information presented and their knowledge of the work at NSB Bangor, the agency does not see any likely impacts to aquatic resources at this time. Therefore, the NMFS will not be submitting any NEPA comments.

However, as the project progresses, if impacts are identified by the U.S. Navy, the NMFS would need to be consulted.

Recorded by: Reema Mahamood

cc: File